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ABSTRACT

This guide is designed to help teachers respond to the changing needs of children, to changing knowledge about how children learn, and to the stress teachers experience in dealing with children's development. The first section of the guide addresses the topics of: (1) educational changes relating to children, teachers, classrooms, and basic instruction; (2) the process of change from traditional classrooms to classrooms using an integrated approach; and (3) characteristics of third and fourth graders. Various aspects of integrated curricula in science and language are examined in the six chapters of the second section. The third section contains information on long- and short-term curriculum planning; management of the classroom environment and student behavior; the use of community resources; and parent involvement. The fourth section discusses methods of evaluating students, processing data from student evaluations, and reporting the results of student evaluations to parents. The fifth section offers final thoughts on the role of the teacher and recommendations about sources of help and support for teachers. Appendices include a description of a review format to help teachers deal with areas of concern relating to particular children and three sample designs for activity-based classrooms. A bibliography of about 130 items is provided. (BC)

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A Time for Learning, A Time for Joy

Part 2

The Early Years

A Sourcebook for Grades 3 & 4

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SECTION A

THE NEED FOR CHANGE

SECTION A THE NEED FOR CHANGE

Introduction

Stories from the Staff Room

The students have changed my expectations of what seven- and eight-year-olds can do. They take on a lot of responsibility now. The discussions we have in class touch on topics I would never have considered introducing ten years ago. It's exciting to see what students will come up with. When I pay attention, they push me as much as I push them.

When I was just starting out as a teacher, divisions were begging for teachers. I wasn't even interviewed. They paid our tuition so that they could fill up the need for teachers in the schools.

These days education students have it much harder. There is so much they need to know. Teachers need to accommodate vastly different students and teach content that was unheard of even fifteen years ago! Teaching is a different job now than when I started.

When you look at all the curricula we are responsible for it is stunning! How can a teacher hope to deal with all of these individual bits of information and deliver them to students in a motivational way? How can we teach attitudes and values which permeate all curricula when we are just scrambling to keep track of what we have taught, let alone how the children feel about what we taught them?

Children with special needs used to go to segregated settings. The most enabling environment for most special needs children is the regular classroom. How can I help to enable all children, including those with special needs, to achieve their individual potential? What resources and support services are available for early years teachers working with special needs children?

These are voices of experienced teachers. They are in the process of change; their environment demands it. This change is both stressful and inspirational for these teachers. It is stressful in that, willingly or unwillingly, they have given up the comfort of familiarity and, therefore, they are uncertain about what they may find in their classrooms tomorrow. It is inspirational in that they are going beyond habitual attitudes by accommodating new information and ideas; they are responding to the needs of students who will become adults in a world of rapid change.

Familiar conversations heard in school staff rooms throughout North America indicate a growing awareness among teachers that merely transmitting knowledge is an impractical pursuit in a society where knowledge is expanding faster than it can be taught--faster than it can be transmitted to teachers. Increasingly, menial tasks are being done by computers and robots. Rote skills and repetitive operations that previously occupied large portions of the work force are diminishing.

Today's students are expected to become problem solvers in a shifting world of cultural interaction, technological growth, environmental awareness, and mutual cooperation and communication. Therefore, teachers need to facilitate the process of learning beyond the mere delivery of information, using models of diversity and divergence. Teachers need to teach students to make their own choices, to find out for themselves what they do not know, and to test and formulate their own values and attitudes in a world of radical change.

A Time for Learning, A Time for Joy: The Early Years, Part II, A Sourcebook for Grades 3 and 4 is meant to be a practical resource for teachers responding to the changing needs of children, the changing knowledge of how children learn, and the changing and growing stresses educators experience as they take on greater responsibility for a child's total growth and development.

Chapter 1

One Child, One Teacher, One Classroom: A Story of Change

The need for change is supported by what educators now know about child development. Their knowledge has been significantly influenced by Swiss psychologist, Jean Piaget (1896-1980), and his interpreters and challengers. Piaget's theories on the stages of cognitive development, which were translated into English in 1958, have been tested extensively and have given rise to numerous generalizations about children.

Piaget has influenced educational thinkers from Jerome Bruner to David Elkind. While his theories have been challenged, and the details of his developmental stages have been questioned and adapted, the underlying focus on experience and a developmental continuum has remained the basis of current educational thought. Observations of children have influenced theories of social, emotional, moral, cognitive, and physical development beyond the scope of Piaget's own work.

Some influential thinkers, such as Lev Vygotsky, have taken different directions than Piaget, and they are outlined in Chapter 3 of this sourcebook. There are also researchers, such as Carol Gilligan (1986), who have challenged Piaget's excessive emphasis on abstract thinking as a male-dominated interpretation of the highest example of human development. Gilligan has shown that females have a higher development of emotional criteria, a sense of responsibility, and feeling for experience that is not valued in Piaget's theories of development. Her work, which is well-documented, does not detract from the basic concept of development, experience, and growth through personal involvement.

Jerome Bruner and Zoltan Dienes both challenged the Piagetian notion that certain ideas and concepts can be taught to students only at certain times. They had opportunity to demonstrate to Piaget that conservation

and set inclusion, for example, could be expressed by children much earlier than he had imagined. They did this by providing experience and using the experience of the children to put the concepts in forms children could relate to.

The Manitoba curricula have been strongly influenced by discoveries in education that began with Piaget. The theories presented in this sourcebook are not meant to solidify concepts about children; instead, they are intended to serve as reference points to orient teachers to the child. Observation of the child as an individual will be highlighted against the background of an understanding of child development.

How teachers respond to the Grades 3 and 4 child in the classroom is pivotal to their work as educators. To illustrate who the seven- to nine-year-old student is who is being considered in this sourcebook, it would be helpful to look at a real-life classroom situation:

'Alan couldn't understand what it was we were doing. He wasn't particularly interested either. We had been studying maps for the month and were using the various keys and symbols to interpret what the land or water might be like on a particular spot on the map. Alan was stumped by the idea of "lines of equal height." He couldn't guess what a cross section view of the land might look like on a topographic map. The places on the maps were completely unfamiliar to him as well. He'd never travelled anywhere in his short eight years. I was reduced to teaching him rote operations such as, "There are mountains on the map whenever you see purple or white." This at least helped him achieve a better mark on the test.

Alan was one of those students who can never sit still at a desk but who always need to be moving and holding something in their hands. Alan was always playing with modelling clay or counting blocks at his desk. This was often a solitary activity. He didn't interact cooperatively with the other children, which was a distraction for him and me. I agonized over his lack of attentiveness and his inability to complete tasks at his desk.

Some of the students were making papier-mâché relief maps of Japan. Alan was more interested in making his own papier-mâché models. In desperation, I charged him with making a clay model of an island that could be inhabited by the little plastic characters he often hid in his desk and played with during spelling exercises. I thought that this privilege would give me some leverage in fulfilling some of my own agenda.

As you may have guessed, Alan produced a map – a three dimensional relief map of an island with mountains, rivers, plains, and towns. His map was the product of imaginative exploration. By the time he had finished he knew a lot about his map: he knew the history of the island and its inhabitants; he knew where different kinds of people lived on the island; he spoke of the conflicts amongst the people, of their wars and alliances; he knew the best places to visit on the island; he knew the character of the beaches, mountains, and rivers. He was the sole expert on the geography of this island.

Alan was given many opportunities to tell the stories of his island. He rehearsed the story lines for travel brochures, legends, and narratives of political intrigue. He inspired other students to make their own islands and do the same. They began hiding treasures on their islands and extended the stories to include more than one island. When I cajoled Alan into writing down his stories, he produced enough material for one month's creative writing.

I then used an idea from the game "Battleship" where islands can be marked off in a coordinate grid so that an area of an island can be identified, for example, as being "B-11," "F-4." This enabled me to introduce large sheets of graph paper so that the students could draw pictures of their islands using the coordinate system for greater accuracy.

It was at this point that I realized I had come full circle. Alan was using a simple version of latitude and longitude as a tool to draw a picture of his island on the graph paper. I was back into mapping skills again.

I asked him how he was going to mark the mountains on his map. He said, "I'll just colour circles where the tops of the mountains are." I asked him if he wanted the circles to show just the tops of the mountains or the slopes of the mountains as well. He said, "The tops." I pointed out that for people who wanted to go there it was important to know where the steep slopes were located. They might not bring ropes if they didn't know what the area was like.

As you may have guessed, I suggested adding another ring of colour around the outside of the first circle of colour to show that there was a slope there. As it turned out, we even measured the depth of the modelling clay with toothpicks marked off in centimetres. The tops of the mountains recorded all clay measuring a thickness of 2 1/2 cm or more and the outer ring of colour recorded all clay over 1 cm and less than 2 1/2 cm thick.

The passion for islands took hold among the rest of the class. A game of "Treasure Hunt" was developed where each person gave the graph paper island to an opponent but kept the one made of clay. Players would sit opposite each other with a barrier blocking the view of each other's clay island. Each player would hide "treasures" on his/her island and the opponent had to guess the right coordinate on which a treasure was found. If the guess was correct then the person needed to identify three geographical features of that grid, such as altitude, direction from a river or mountain, on a flat or sloping surface, in water, before claiming the prize. Students even started hiding clues containing geographical riddles for the opponents to use.

I never planned on going so far with this project. It took a lot of time and I had to use part of my math schedule, as well as my language arts, science, and social studies slots to complete it. This concerned me. To my good fortune, however, a more experienced colleague pointed out to me that I had worked in many curricular areas and that many cross-curricular objectives had been met.

Alan became the authority on islands in the class. Because he started first he was always one step ahead of the others. He also thrived on

making his own decisions, whereas some of the academically more successful students in my class tended to want to please me rather than strike out on their own.

There were some symbolic aspects of mapping and atlases that Alan never did master that year. It was difficult for him to hoid two or three pieces of information in his mind and then find a location on a map. He never quite understood how to identify steep or shallow slopes on a map and was confused about how people in Australia would use maps if they were always pointed in the wrong direction! It was also obvious that Alan was not ready to learn these things.

Alan had challenged me in a fundamental way. I was not meeting his needs. I was not seeing his strengths and consequently my methodology was ineffective. I was so concerned about fulfilling a preset agenda that I nearly missed the boat – Alan's boat, to his island!

The Child

The classroom situation described above reveals the character of the child as a learner. It reveals a teacher undergoing the process of change in accommodating the nature of the child. It reveals the different approaches of program delivery that must be available to a teacher of children in Grades 3 and 4.

Alan's teacher discovered what Piaget had previously discovered. According to Piaget's classification of the stages of learning, the Grades 3 and 4 child is developing on a continuum between the pre-operational stage and the concrete operational stage. Each child is developing at his or her own rate. Alan was struggling with abstract ideas related to maps, specifically the logic of mapping symbols. **Through meaningful experience with materials of his choice, Alan was able to assimilate the ideas that were being presented to him.** Edgar Dale, Jerome Bruner, and Piaget would say that Alan needed more experience in order to develop cognitively to the stage of concrete logical thought. Alan was eight years old at the beginning of Grade 4. He was still making transitions from pre-operational thinking to concrete operational thinking.

The building of three dimensional maps enhances everyone's understanding of maps and the relationships between various things on the maps. According to Bruner and Piaget, **children's ideas are related to the experiences they have had. Rich experience enables diversity in the ways ideas are expressed.** Alan ***was*** able to understand the ideas about maps when his own modes of exploration were valued.

As the mapping project proceeded it became highly interactive. At the outset, Alan tended to distract himself with activities that, from the teacher's perspective, were off-task. Furthermore, he did not work well with others. He had not been given many opportunities, however, to do interactive work. Research has found that upon entering the concrete operational stage **children show an increasing need and ability to take another's perspective when given a rich and diverse social environment.** The mapping unit provided Alan with rich social interaction. He was challenged to accommodate a less egocentric view of himself and his ideas.

The impetus for the extended mapping project came from the teacher's frustration with her own inadequate agenda and her openness to respond to the child and allow him to make decisions. This corresponds with Piaget's theory that **the child does not absorb knowledge passively but constructs knowledge through interacting with the environment. Choice and decision making are crucial to becoming an active learner.**

Alan was not as successful in his classroom as many of his fellow students. He was not able to receive information passively from others and immediately understand and make use of it. His success with the mapping project was the result of being allowed to work at his own level of involvement. **His unique style and individuality were respected and he was allowed to develop and grow at his own rate.** This again supports Piaget's observation that children do not grow at the same rate, but rather proceed through a continuum of development at varying rates.

As Alan found himself in a position of having achieved a measure of success, his classmates began to see him in a different light. They turned to him with questions. **His self-confidence grew as he began to see himself as capable of doing well.**

In the Early Childhood years, the need to demonstrate skill, accomplishment, and performance is very much tied in with ego development and the building of belief in self as able--what I call the can-do spirit.'' (Wassermann, 1990, p. 4).

The Teacher

Alan's teacher was a good teacher, obviously concerned about children and wanting the best for all. She was committed to the child's happiness and based her actions upon that commitment. It was that commitment that enabled her to disrupt her familiar classroom structures for this one project. Her interest in the child's welfare allowed her to see the need for change in what she was doing. The experience was very positive but at the same time it was chaotic and uncertain. How was she to organize and store the materials? When would she teach handwriting and spelling? How would she deal with the increased noise level in the classroom? How would she know what the students had learned? Was she losing control? Was she still ''teaching'' when she wasn't telling the students exactly what to do?

These uncertainties are the signposts of the teacher's growth which should be respected by teachers, parents, and administrators. Although applied specifically to children, Piaget's theories of cognitive development have much to say to adults. In adulthood, as in childhood, new knowledge and understanding creates disharmony in an individual's thinking. It takes time to integrate new discoveries into an individual's attitudes, actions, and beliefs.

This teacher, almost by accident, found herself challenged by a new classroom experience which caused her to struggle with what she considered valuable in education. Her method of preparation for the class had to be re-evaluated for this project. Because she needed time to process what she had experienced, she went back to her familiar

routine for many months before she tried anything like it again. The next time she tried a project that exercised student choice, longer time spans, concrete experience, and diverse student interaction, she knew more about what to expect. Moreover, she was able to observe and evaluate what she did with a much more critical eye. Instead of being a transmitter of knowledge, she incorporated more control as a class facilitator. She also felt slightly less exhausted at the end.

Piaget explains that active teaching methods **"require a much more varied and much more concentrated kind of work from the teacher, whereas giving lessons is much less tiring and corresponds to a much more natural tendency in the adult . . . . The heartbreaking difficulty in pedagogy, as indeed in medicine and in many other branches of knowledge . . . is, in fact, that the best methods are also the most difficult ones"** (Quoted in Labinowicz, 1980, p. 274).

The Classroom

Alan's classroom was like many that might be seen in North America: neat, clean, disciplined, and well-organized. The posters and displays on the walls were carefully chosen and were part of a yearly sequence of material corresponding with the units being taught. The desks were arranged in orderly rows facing the chalkboard to facilitate the smooth delivery of information and to enable the teacher to monitor the class efficiently. The students' materials were neatly contained within their desks and in a back closet, and the teacher had ready access to texts and files. Other materials stored in a back shelf were easily accessible to both the teacher and the students.

Many changes occurred in the classroom environment as a result of the extensive mapping project. When materials such as modelling clay and cardboard were being used over a long time span and when storage was needed for partially finished products, shelves were cleared for supplies and maps. Desks were pushed together to facilitate more table space on which to work.

At times, there was also an increase in noise and an increase in movement between the desks and the supplies of paper, modelling clay, and tools. The teacher was needed in so many places at once for many different problems. The physical space of the classroom seemed less "together." Scattered throughout the room were piles of graph paper, a dozen pieces of cardboard with lumps of modelling clay on them, and little balls of multicoloured clay. Moving desks together and apart generated a certain amount of energy that an individual could sense in the environment.

These features are characteristic of a classroom in transition. In such a situation the issues related to the management of physical space become increasingly important. Both the management and monitoring of individual progress change when the task becomes multidimensional. Student movement becomes a complex issue when there is no longer a single focus in the room. As the activity in the room diversifies, the responsibility of the students in the class also increases. The evaluation of student learning likewise changes because time is being directed towards activity other than the acquisition of information.

These changes in the classroom illustrate the interdependence of all aspects of education. As the teacher tries a new activity, a whole array of educational issues become relevant. One can predict the problems and directions that might emerge when initiating activity-based and child-centred learning in the classroom. The process of solving these problems is exciting and empowering. This document has been written to assist in this pursuit.

The Basics

The ideas highlighted in this chapter and those introduced elsewhere in this sourcebook are not new. They are consistent with the views stated in Manitoba Education and Training's publications *A Time for Learning, A Time for Joy: The Early Years: A Sourcebook K-2* (1986) and *Special Education in Manitoba* (1989), and in the National Association for the Education of Young Children's *Developmentally-*

Appropriate Practice in Early Childhood Programs Serving Children Birth Through Age 8 (1986).

1. **Concrete experience is the means by which cognitive development occurs in children. The thinking that accompanies concrete experience allows children to assimilate and accommodate new information into new structures of understanding. Without concrete experience development is slowed down.**

2. **Children's ideas in the early years are largely connected to thinking about real things and events. Children's language comes from what has become real to them. Learning experiences should be real and relevant to their lives.**

3. **Rich and diverse social interaction increases children's ability to take another's perspective. This perspective-taking ability is crucial to all higher level thinking in the language arts, science, social studies, mathematics, music, physical education, and art.**

4. **Children's self-esteem, sense of competence, and positive feelings toward learning are fostered by caring and sensitive teachers.**

5. **Children can be given information but not knowledge. Children construct knowledge. For children to remember something they have been told is not to know it. They must build knowledge from reflective experience. The teacher provides information at a rate and in forms that correspond to the experiences children have had.**

6. **The opportunity to make choices and decisions is crucial to becoming an active learner.**

7. **It is crucial that each child be respected as a unique individual and that each child be enabled to achieve his or her individual potential. Individualization is the key to optimal learning for all early years children.**

8. **All children, including those with special programming needs, require programming appropriate to their development and learning. Teachers' observations and evaluations of children's learning, behaviour, and social interaction form the basis for instructional programming for all early years children.**

9. **Children with special programming needs can learn with their peers in a child-centred, activity-based early years environment. Their instructional program will be developed by a collaborative team. Depending upon the complexity of the child's development and learning, the child's programming team will include the parents and the early years teacher, as well as administrative, resource, assistant, and allied professional support personnel. The early years teacher plays a crucial role on every child's programming team.**

10. **Change is the nature of the educational environment. The students change in their abilities. The teacher changes to accommodate new information, a changing society, a changing student population, and a changing family structure. Teachers also initiate change based on their ability to solve problems for the future.**

Further Reading

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Chapter 2

The Ground, Path, and Fruit of Change

Teaching is a dynamic profession involving a long-term vision as well as thousands of interactions and decisions every day, and the ability to respond to a complex environment. This sourcebook advocates change as part of this dynamic quality of teaching and recognizes that teachers constantly need to adapt to an evolving world.

Some assumptions about education need to be explored in view of the rapid changes that have occurred over the past thirty years. Changes in the classroom have been ongoing and process-oriented, occurring in a continuum. It is helpful to look at change in terms of its ground or origins, its path or the developmental continuum, and its fruit or the full integration of curricula, the environment, and the child.

A four-part discussion of the continuum of change will be presented as a suggestion for what may take place in the evolution of a classroom. The respective parts are titled: The Ground: The Traditional Classroom; The Path: Exploration and Development; The Path: Establishment and Revision; The Fruit: The Continuity of Integration.

The Ground: The Traditional Classroom

Tradition is, in many ways, the celebration of what has proven to be good from the past in order to understand the present. This is the case in education. The traditional educational program appreciates the fruits of the academic world. It understands the discipline required to put aside superficiality in order to gain knowledge.

Exemplary teachers in a traditional classroom have a broad knowledge base, are organized and sensitive, and have high expectations of, and respect for, students. Cooperation within the traditional classroom is important and the overall classroom atmosphere is known to be crucial to the educational climate. Characteristically, the classroom contains some plants and perhaps a fish tank or terrarium. In addition, board games, blocks, and other activities are often available for the children to play with once they have finished their work. There is a strong

emphasis to respect these materials, and to be able to use them without distracting others.

Teachers in this sort of program commonly have a strong interest in the world around them and with this interest imbue their students with a passion to learn. Such teachers also evaluate and question the efficacy of the program and are ready to change when it means further meeting the needs of the students. This intelligence and inquisitiveness on the part of teachers leads to the desire to challenge old assumptions.

These characteristics are a teacher's strength. With a shift to a less traditional style of teaching these characteristics are not abandoned for something else; rather, they are nurtured and utilized.

Given the strengths of the traditional classroom, several questions need to be raised: **Why should the traditional classroom change? Are there attributes of the traditional classroom that are not useful?**

Traditional educational programs often become confined by their own history. Most teachers' ideas on teaching are rooted in their personal experience as students. Hidden in this history are patterns, habits, and assumptions regarding teaching. However, these very patterns and assumptions can be questioned. By doing so, new potential for meeting the needs of an increasingly diverse student population may be revealed.

Traditional programs are designed for homogeneous groups of children. This is reflected in various areas: the ways in which children are taught are confined to narrow styles; the time management of the day tends to treat subject matter in isolated segments; and the physical environment does not facilitate diversity or movement. Furthermore, children with special gifts and needs are not easily accommodated in the traditional programs, for example, the physical space may not be set up for wheelchairs; the textbooks may be restrictive for students with varying learning styles; and structures in the classroom could limit special projects or ideas desired by gifted students.

The Path: Exploration and Development

This sourcebook presents teaching as a path, not a static situation that can be duplicated as required. The path is determined by the individual strengths and interests of the teachers and the total teaching context. The path leads toward experience-based learning and a deeper integration of the child's life and school education.

Entering the path of change means the breaking of habits. Teachers must rely strongly on their own inherent intelligence as they progress along the path. The rate, sequence, and style of change must make sense to each individual teacher. Many teachers learn by fully experiencing their own child-centred classroom and by asking the relevant questions in response to situations as they arise. Those teachers may wish to turn to "The Fruit: The Continuity of Integration" to get a full picture of what this part of the path might look like. Others may prefer to read the discussion of the process of change that follows before beginning to make changes in the classroom. It must be emphasised that the following situations illustrating the process of change in the classroom are relative, describing common tendencies and procedures but not definitive procedures.

The Process of Change

Participants in a classroom become habituated to the structures of that particular environment. Since the structures are predictable and consistent, much of the movement of the day occurs without a need for thought or decision making.

The way in which knowledge and information is presented in a traditional classroom is consistent. Students and teachers lock into familiar patterns of communication: the teacher is viewed as the exclusive information source; student behaviour is passive; time schedules are segmented. Each one knows what to expect and what to do to get the desired outcome.

Initiating change within this climate of predictability will have a strong effect. At first, the novelty of new patterns or of varied patterns will increase interest on the part of the students and the teacher.

Everyone's senses will become attuned to new experiences. Everyone will feel fresh and relieved from the regular habits of the school day. This is a common occurrence when an increased choice of activities and learning experiences is introduced.

Nevertheless, this increased interest is not necessarily a sign that fundamental change is taking place. It can be an initial response to novelty--a deviation from the norm. As change proceeds, existing structures in the classroom will be dismantled and slowly replaced with new structures. Often difficult and slow in developing, this period marks the transition to the creation and adoption of new structures by both the teacher and the students.

When change is initiated the activated interest of the students and the teacher play off one another to generate creative growth. The increased attention and energy of the class is accompanied by growth in productivity, insight, and learning.

As the novelty wears off, however, the need to create new structures emerges. At this point there is a noticeable dip in class progress. There is uncertainty about what is expected, and there is a need to test, evaluate, and retest such issues as long- and short-term scheduling, materials in the classroom, classroom arrangement, questioning techniques, student expectations, and curriculum development.

If a teacher were to introduce change by altering one aspect of teaching--for example, trying one thematic unit by integrating language arts, social studies, science, and art--then all the other facets of the class would need corresponding adjustments. Timetables, student grouping, expanded resources, student movement, and evaluation all become issues to consider when a teacher initiates one aspect of change in the class.

This is the period during which a teacher is likely to give up and return to the previous structures, labelling the experience a failure. **It was not a failure.** This is a common stage in the difficult process of change in a classroom.

As the teacher incorporates more child-centred structures into the classroom, the environment begins to fit together as a whole. When the environment begins to work as a whole, the student, teacher, methodology, and curriculum content begin to lend momentum to each other. At this point a deeper, more fundamental growth begins to occur--growth that has no ceiling to its potential. The purpose of this sourcebook is to encourage this difficult but necessary movement along the path.

The evolution of a classroom is a long process that involves student choice, active learning, flexible time and space, and integrated subject matter. It often begins with the realization of, and commitment to, the value of self-directed time and activities, for example, games and puzzles.

This commitment is manifested in the space and time alloted to these pursuits. Desks are arranged so that there is communal space available for small groups. Games, puzzles, and blocks gain a more prominent place in the classroom and the class is instructed in their use and storage, indicating that these resources may be used in activities once the other work is done.

Painting easels, construction materials for sculptures or inventions, take-apart centres, sand and water resources, listening-recording centres, and interest centres with shells, bark, and bird nests for observing and sketching are some of the other materials that may gradually be introduced into the classroom. Any modifications to the classroom environment will have consequences for the rest of the program as well.

Once educators place an increased value on children engaging in more diverse activity, more time will be given over to what were once viewed as "extras." Time might be scheduled with the whole class to use the materials if there are enough of them. Commonly the teacher has a part of the class engaging in the activities while the rest of the students work more intimately with the teacher on "seat work."

With the extra time committed to activities, the teacher is responsible for establishing a workable atmosphere in the class. This atmosphere requires students to become more self-directed and to assume greater responsibility for the upkeep of the space and materials. At the same time, the teacher must develop the ability to feel comfortable with more movement and noise in the room as well as the energy to maintain the quality and variety of resources for the students.

The way in which academics are presented in such a context is not altered extensively, but the enrichment through use of real-life experiences and real objects is valued more. Those teachers who are comfortable with the whole class doing activities for short periods of time can use this time as an observation period to gain insight into the students' ways of knowing and working.

At the outset, the teacher may not be sufficiently free to make extensive observations, but when the students have learned to act upon their interests and to focus on sustained activity in a cooperative manner, the teacher cannot help but pose questions such as the following

- What are the children learning?
- What sort of thinking do they engage in with this activity?
- What problems are being posed to them?
- How are they solving the problems?
- Why did the student try it that way?
- What language is being developed?
- What can I find out about the children's interests through observing these activities?
- What skills do I now notice in them that I didn't before?
- Why do I feel there is something important happening here?
- How do I find out what it is?

Questions like these are both exciting and confusing. They are not easily answered and require further exploration by the teacher along with the students.

The central issues of this path hinge upon teacher self-observation – viewing oneself as a learner. This is crucial for making change real. Without this, change becomes a novelty without meaning. The art and science of teaching enable a teacher to gather the data, to see what is on and beneath the surface, and to respond with logic and intuition to what is seen.

The Path: Establishment and Revision

As people have different strengths that influence the paths they take as early years educators, care must be taken in making generalizations about the path of change. The descriptions offered here have been abstracted from the personal experience of many teachers although each teacher followed his or her own individual path. These descriptions are offered as credible signposts along the way.

In each of the following hypothetical classroom situations the teacher has incorporated the interests of the students into the structure of the school day.

Classroom One

In Mr. Morrisette's class the students are encouraged to bring the issues, events, and objects of their lives to the classroom. To serve these interests, time is scheduled in the day for the children to play, research, construct, and converse in different places within the classroom. The students are taught to make choices and take responsibility in pursuing their interests. Mr. Morrisette organizes the physical materials in the classroom to best elicit and extend the experiences of the children. The types of materials include

- dress-up clothes and props
- math blocks
- construction materials (sculpture or invention)
- painting easel and paints
- interest corner materials
- books and magazines
- tape recorders and tapes
- collage and weaving materials
- modelling clay
- puzzles and games
- sand and water

These materials may or may not be used by the whole class at one time.

Experience-based learning is valued because it promotes small-group interaction, teaches responsibility, and provides enrichment through the enhanced use of body, speech, and mind. Mr. Morrisette has a real appreciation for the problem solving and inquiry that occur when students choose their writing topics, literature, activities, and explorations of materials and objects. He sees the positive self-concept of his students grow as their interests become valued while he sees the rich experience as valuable, he has concerns about how this fits with the information and concepts of the curriculum. For Mr. Morrisette many of the activities are not consciously or clearly connected to the ***content*** of the provincial curriculum. **He can be sure, however, that there are clear connections being built between the classroom**

environment, the students, and the philosophical concepts of the curriculum.

The connection the teacher makes between student interest, experiential learning, and the curriculum is largely process-oriented. There is a clear link between curricular process objectives and the classroom environment. The teacher is establishing linkages between the games, activities, materials, children's interests in the classroom, ***and*** the curriculum.

Other scenarios with other teachers might show different relationships between the diversified environment and the curricula. Some teachers readily connect children's interests to the content of the curriculum. Other teachers are instinctively able to organize active classrooms and choose to incorporate the strengths of the traditional classroom as part of their approach.

Classroom Two

Mrs. Narayan, like Mr. Morrisette, has an overall vision of the curricula and knows the process and content objectives. Her appreciation of observation skills has enabled her to respond to her students' interests and needs by making ongoing modifications to the classroom space, the time structures, the degree of student choice and movement, and the literary and scientific resources of the classroom.

She is working on integrating the curricular process and content with the students' experiences through a unit of study which she is planning together with the students. The unit makes use of student choice, learning centres, and a variety of situations for reading, writing, discussing, and exploring. (See "Using Webbing in Planning a Theme" in Chapter 6.)

In preparation for this unit she has taught the students to take responsibility for clean-up and maintenance of the classroom environment and has discovered effective ways of gaining class attention. The students have learned to work with one another cooperatively.

The integrated unit Mrs. Narayan and her students are planning requires specific connections between the content of what is learned and the content of the curriculum. Mrs. Narayan has thought about the interests of her students, including those of a mentally disabled child in her class, and has chosen a theme that will represent those interests. She has also identified the units and themes in the curriculum guides that are connected to the class unit. (See Section B: Curriculum and Integration.)

Offering diverse environments and supporting diverse participation, these two classrooms are evolving toward greater realization of potential for all participants. Individual activities for the development of motor skills, social skills, language skills, peer tutor relationships, and self-concept are more readily promoted in open classrooms.

Students who might want or need to proceed with their learning at an individual pace or in a different direction are now in a situation where different activities are valued as more than expendable extras. Children with special physical or cognitive needs are better accommodated in active learning environments. Gifted students as well as students with special learning needs can have their diverse needs met within the context of these classrooms.

Evaluation and record keeping are of utmost importance in this context. When the delivery of the program begins to move towards activity and individual choice, the teacher must develop the means to record what is done by each student. Ongoing anecdotal records become increasingly important as the teacher uses these to improve and individualize instruction. Descriptive evaluation becomes more important. When students record their own observations and activities the amount of raw material available for evaluation increases. (See Section D: Observation and Evaluation.)

Teachers can take other paths to a child-centred active learning classroom than those presented here. Whatever the approach taken, the end result or fruition is the continual awareness of the process itself--the process of respecting the child's world in his or her own education.

The Fruit: The Continuity of Integration

The fruition of an integrated approach necessitates the linkage of activity and academics. The children's skills development program and formal learning must be linked with activities involving real objects in real situations.

For practical purposes, a unit of study on insects will be discussed. This unit is grounded in language arts with a strong focus on writing, reading, listening, and speaking informally and formally. The "community" focus in social studies in Grade 3 is extended to a look at ants and bees, the various roles they play in their communities, and the ways in which their needs are met by the members of the community. The science connections are found in the Grade 3 Life Cycles unit and the Grade 4 Population Interactions unit. Mathematics is used in measuring, classifying, and collecting numerical data about the insects.

Note: "Insects" here will refer to the broad category of small invertebrate animals that are more or less segmented. This is different from the scientific class of animals defined as having a head, thorax, and abdomen, and having only three pairs of legs.

Many different activities and skills will have been taught and planned with the class in advance of this unit and lists of individual projects will have been generated for the students to choose from or adapt to suit their interests. The reinforcement and further development of these skills could be built into the activities at various centres and they could be extensively used in whole or in part for a lengthy activity period, often one hour or more in the morning. Students could choose the centres they wish to go to and will have been taught various recording methods to help the teacher assess the activities of each individual.

The following examples of "Insect Centres" might be considered, depending upon the interests and needs of all the children in the classroom.

1. **Construction Centre**

   Materials such as blocks, wood, clay, etc., could be made available for building a model or diorama of an ant colony. Students could be required to include places for food, eggs, a queen, a cemetery, etc.

2. **Sketching Centre**

   Resources to help students focus on the observation process could include pictures, magnifying glasses, microscopes, insect specimens, pencils, and sketch pads.

3. **Game Centre**

   a) The game centre could have a supply of insect picture cards to be categorized into a grid labelled with various titles: Beetles, Bugs, Butterflies, Moths, Spiders, Flies, Caterpillars, etc. A supply of recording sheets to help students identify the attributes of each insect group could be made available as well. The picture cards should be self-checking, or labelled on the back.

   b) Interdependency Game – a higher order discussion activity using two kinds of cards
      i) circular name cards, e.g., human, ants, sun, water, bee, rat, worm, earth, flower, PCBs, car
      ii) arrow-shaped relationship cards, e.g., eats, decays, moves, lives with, lives in, becomes, feeds

   The intent of the interdependency game is to create a web of interrelationships between the name cards using the relationship cards as the connectors. Students take turns placing one name and one relationship card down during each turn. They may leave it there only when the relationship has been rationalized to the satisfaction of the other participants.

4. Research Writing Centre

A collection of insect resource books could be provided for the information gathering and report writing. Small groups of students could itemize in point form what they already know and then decide upon three or four group questions to which they would like to know the answers. These questions would focus the use of print resources. Finally, the students could record what they ***found out.***

5. Insect Communities

Communities such as ant farms, bee colonies, and meal worm cultures could be explored.

Students could keep ongoing log books on one or more of the communities. There could be a list of research questions for them to investigate (e.g., How do bees/ants communicate to the others where food can be found?'').

6. Math Centre

The quantitative data on insects could be used as the basis for a problem-solving unit. The problems could involve practical considerations as in the following example

An army caterpillar can eat 10 times its own weight (.5 g) in leaves every day. A poplar tree has an average of 150 kg of leaves in its branches. How many caterpillars would it take to strip the tree in one day? Remember, this really happens!

The problems could involve loosely disguised math facts practice

How many ants does it take to get 42 legs?
How many legs do you get with 9 spiders?

7. Listening Centre

Resources for the listening centre could include slide-tape and filmstrip-tape facilities.

8. Library and Reading Centre

This centre could feature a collection of magazines (Owl, World, Equinox, etc.), factual books, novels (Charlotte's Web by E.B. White, The Cricket in Times Square by George Seldon, Hope for the Flowers by Trina Paulus, The Keeper of the Bees by Gene Stratton-Porter, The View From the Oak by Judith and Herbert Kohl, etc.).

This centre could be open-ended, used purely for receptive reading. It could have a large chart in it or individual record sheets for students to record information they discovered about insects.

These centres could be used in two basic ways. A particular part of the morning or day could be set aside specifically for whole-class use of the activities, resources, and games. The rest of the day could be scheduled for other topics more or less related to the unit such as: spelling (using topic-specific vocabulary selected from words understood and used by the whole class during the study of the insects unit); writing; physical education; drama; music; bulk reading and response journals; class study of a novel (e.g., Hope for the Flowers); health (e.g., a Family Life lesson on cooperation and conflict); math facts practice; brainstorming for new ideas or activities, or an introduction of new materials or objects; personal journal writing time.

Another way of using the time and the centres is to have the students choose which activities to engage in, when, and for how long, provided that they have been taught to assume this responsibility. In one full morning, for instance, certain requirements could be laid out for each student. There might be either a personal or class record of the day with specific requirements to be checked off as they are accomplished. The students could be free to decide whether to

complete these requirements at the beginning, middle, or end of the morning. The rest of the morning would be filled by their choice of alternative activities such as those previously described. With this approach, the students are responsible for every minute of the day and are treated with the assumption that they are responsible. (See Chapter 7 for timetabling information.)

What follows are some expansions of the idea of facilitating choice, individualization, and personal investment and responsibility in the classroom. Teachers might choose from the options presented after having assessed their own unique situation. The students must be taught to work in these ways. Moreover, teachers must ensure that the students have a number of options that will keep them busy for extended periods of time. **The options described below are offered as choices in a growing number of teaching methods from which a teacher will select according to individual learning situations.**

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Any teacher will move back and forth on the continuum between student-directed and teacher-directed learning throughout the year, depending upon the topics being studied and the needs of the learners at any given time. The following suggestions are valuable and powerful methods of teaching and learning but they must be used with discrimination.

If a morning of choice time is successful then a whole day could be tried, provided there are enough activities and requirements to engage the students. It is also reasonable to have weekly requirements, perhaps involving an extended spelling unit, work in math skills, written reports, and novel studies. The teacher could make a weekly plan, scheduling whole-class meetings in the morning and two 40-minute small-group meetings a day for reinforcement of concepts and formative evaluation of what is being learned. The students would be made aware of this schedule and would be allowed to choose when to fulfill their requirements and when to work on their own projects and investigations.

An ongoing evaluation would reveal which students are having trouble with the freedom they are given. These students could again be directed in their fulfillment of the requirements and in their use of time to make choices.

These last scenarios are marked by an increase in student input and choice. This choice extends beyond the ''when'' and ''how long;'' it also includes the ''what.'' A teacher can plan every activity, and determine every piece of equipment and every object brought into the room. The teacher can give the students complete freedom in choosing which of the activities they do and when they do them. **But the teacher may not truly have given the students input into the planning of the unit because the ideas have not come from the students.**

This may sound trivial but it is an important point. A teacher can plan a unit of study before the school year commences. The main areas of interest can be predicted with varying degrees of accuracy, the obvious

content areas can be explored, and materials can be collected. **But when the class starts in the fall the teacher must elicit the students' responses to the unit and re-plan the unit with them.** When the students' ideas are valued the students feel valued, and the relevance of the learning gains power for them.

The process of empowering the students can be achieved by presenting a word, idea, or object and engaging the students in the process of webbing out the main ideas and questions related to the unit (see Chapter 6). With skillful use of divergent and convergent questioning techniques students will often hit upon the main ideas the teacher would want to cover. In addition, they will often come up with new, interesting, and viable ideas the teacher has not considered. This process creates an atmosphere of empowerment and promotes student investment in the unit because it has been made theirs. Suggestions and revisions coming from the students during the unit should also be taken seriously.

The components essential to the establishment of continuous integration are extensive and are restated here.

- The unifying processes, ideas, or objects must be able to accommodate a wide and varied set of related activities.
- The students must be trained in self-direction and how to make appropriate educational choices pertaining to the time, sequence, and content of their school day.
- Multiple evaluation techniques must be in place for daily and weekly assessment, including the collection of work samples, observation records made by the teacher throughout the day, student-made records placed at each centre of activity, oral evaluation, student-teacher conferences, formal conferences, and teacher evaluation. (See Chapter 7 for student record-keeping.)
- Materials and resources must be plentiful enough to engage all students at all times.

- Students must be responsible for the maintenance and clean-up of the materials.

- Students must be able to work with peers in groups of varying sizes with the self-organization skills to match the degree of self-direction they have been allowed. (See Chapter 9.)

- Students must be taught to evaluate their own actions. They must learn to identify when they have made good educational choices and when they have taken responsibility for space, materials, and interactions with others. (See *Introduction: Gathering and Using the Data* in Section D: Observation and Evaluation.)

This outlines the general characteristics of an integrated classroom in full bloom. The specific manifestations of such a classroom vary greatly, as do the roads leading to them, but the essential principles remain the same.

A Retrospective Overview

There is a risk here of supposing an "end point" or a final stage of integration. While this chapter has presented a final description of how a child-centred, activity-based classroom might function, ultimately the real fruition is the ongoing quality of the path taken and the growth of students and teachers as learners.

The fruit of a child-centred active learning program is harvested from moment to moment all along the path. In this sense there are constant successes as the program develops. Often they are as small as a fresh observation or a glimmer of new insight into a student. At times they can be major steps in structural change, teacher skill, or student initiative. It does not matter that there are regressions and periods of uncertainty. **This is the result of digging deeper into the vastness of the classroom experience.**

The path is continuous. There is no end to the observation, exploration, and revision of programming. The fruit of this process is continuous integration or the uncovering of interconnections. This is what brings depth to the educational process. This is what allows the teacher to know the students. This is what makes the curricula and the experience and interest of the student and the teacher come together in a unique and meaningful way.

The enchanting fable, The Little Prince by Antoine de Saint Exupéry, describes this endless process. At one point in the story the Little Prince meets a fox with whom he wishes to play:

> *"I cannot play with you," the fox said. "I am not tamed."*
> *". . . What does that mean – `tame'?"*
> *". . . It means `to establish ties.' . . . To me, you are still nothing more than a little boy who is just like a hundred thousand other little boys. And I have no need of you. . . . To you, I am nothing more than a fox like a hundred thousand other foxes. But if you tame me, then we shall need each other. To me, you will be unique in all the world. To you, I shall be unique in all the world. . . ."*
> *(Page. 80.)*

Saint Exupéry uses this allegory to describe the process of human development. Educators try to tap into this ongoing process through the experience-based classrooms, process learning, the development of attitudes and values regarding knowledge and positive self-esteem. The fruition of the classroom experience is the ongoing discovery of the world as fresh and unique. This happens when children and teachers have made knowledge their own, when the environment, language, ideas, and other living things become an important part of their interests.

The fox explains further the Little Prince's relationship to one flower on his planet:

"It is the time you have wasted for your rose that makes your rose so important."

"It is the time I have wasted for my rose –" said the little prince, so that he would be sure to remember.

"[People] have forgotten this truth," said the fox. "But you must not forget it. You become responsible, forever, for what you have tamed. You are responsible for your rose. . . ."

"I am responsible for my rose," the little prince repeated, so that he would be sure to remember. (Pages 87-88.)

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Chapter 3

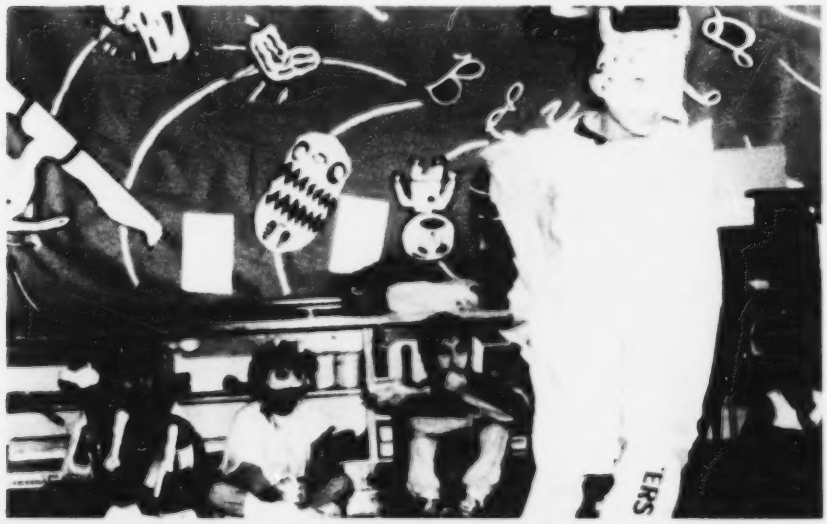
Grades 3-4 Children

Characteristics of Seven- to Nine-Year-Olds

This sourcebook deals specifically with the seven- to nine-year-old child. It would be helpful to consider briefly some general attributes of this age group, keeping in mind that individual children do not often fit these broad generalizations but show growth and strengths unique to themselves.

The period encompassing Grades 3 and 4 is often a transition time for children. It marks a transition from the **late pre-operational stage** characterized by a limited use of adult logic and a more egocentric view of the world than the **concrete operational stage** which follows. During this period children begin to exhibit a more mature use of logic as they develop a new cognitive structure. They begin to use logic in relation to physical objects as well as to ideas about their world. They explore new strength of mind and body. They develop the ability to discriminate between the reality found in play and fantasy and the reality of real life. They develop a greater interest in others than they had before.

On the following page is a brief comparison between the two stages. The purpose is to point out the contrasting ways children can think about the same issues as they progress in their development.



PREOPERATIONAL STAGE	CONCRETE OPERATIONAL STAGE
The child	*The child*
displays high interest in living things and nature	is able to take about nature in the abstract
has an unclear approach to causes	has a new-found ability to discern cause and effect
is unable to hold one attribute of a set of objects constant while considering another attribute	is able to classify in terms of colour, shape, size, or a combination of these attributes
is unable to consider another's viewpoint	reveals increasead concern for how one is viewed by peer groups
is individualistic in play, showing limited interest in the opinions of others	participates in collective and increasingly rule-oriented play
has a limited understanding of linguistic and mathematical rules and generalizations	begins to internalize rules and generzlizations through processing experience but does not understand without concrete experience
considers "big people" as the source of right and wrong	sees intention as the source of right and wrong
perceives time as variable and relative to an activity	perceives time as constant and unchanging
develops gross motor skills through activities such as circle games and ball tossing and fine motor skills through cut-and-paste kinds of activities	demonstrates facility with smaller objects, tools, pencils, rhythms, etc.
has little concern for how others view her/him	is concerned with how he/she looks in the eyes of others

Why Is This Relevant To Me?

Children proceed through these stages at individual rates. A seven-year-old can easily be at a more advanced stage of development than an eight-year-old. Some students stay at one stage for a long time before moving on, while others spurt ahead early and slow down in their development later on. This is why two seven-year-olds could have varying success at symbolic math or spelling exercises, for example. This difference is a developmental issue, not an intelligence issue. The intelligence of students is not reflected in their degree of cognitive development.

There is a danger in either negatively labelling students who are developmentally young or inhibiting their development by denying them concrete experiences that will enable them to develop further. Students may have difficulties with information they are expected to read in a book when they are at the stage where they should be investigating the real world and talking about that.

All students will switch back and forth between a logical and illogical response in certain situations. Repeated experience, rather than rote repetition of words and numbers, makes these transitions complete. Students will have different abilities to make generalizations about objects and ideas. Such differences are characteristic of students who are developing their concrete operational thinking.

Grades 3-4 children can be expected to grow as logical thinkers with more adult-like conversational abilities. They will become increasingly adept at using symbols when they are associated with real objects and situations. Each child's ability to think logically can be expanded in an experiential classroom environment where the child is not made to feel badly about being young and less developed.

The developmental theories behind these ideas are supported through different emphases in the works of Piaget, Bruner, Elkind, Vygotsky, Dewey, Erikson, Montessori, Pestalozzi, Rousseau, and others. These ideas are old. They have taken many forms over the last three hundred years and are continually being rediscovered and revalidated. It is relevant for teachers to realize the extent to which educators, linguists,

and psychologists have tested and retested the ideas expressed in this sourcebook. What follows is a brief description of where other researchers fit into the theoretical basis of this sourceboook.

Jerome Bruner, although owing a considerable amount to Piaget's theory, has unique ideas of his own. He too emphasises the primacy of experience in the attainment of knowledge, arguing, however, that the

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structural rules of language, or grammar, develop through logic as well as through experience (Elkind, 1976). The more sophisticated the child's language, the more abstract the ability of the child to understand experience. Whether it is grammatical or logical development that is most important to the child is difficult to tell.

In Bruner's view, any concept can be taught to a child provided it is presented in a way that corresponds to the child's stage of intellectual growth. A concept can be continually reintroduced in increasingly sophisticated modes as the child develops. This is called the **spiral curriculum** (Bruner, 1960). The primary characteristic of the spiral curriculum is the emphasis on the **construction of knowledge** proceeding through three successive modes of processing: ***ENACTIVE*** – action and experience with the real world; ***ICONIC*** – pictorial representations, imagery; and ***SYMBOLIC*** – the use of language and numbers in abstracting the experience fully into thought and insight.

David Elkind, a contemporary child psychologist, is a noted interpreter of Piaget. Elkind has expanded the understanding of developmental theory into the areas of social-emotional growth, morality, and beliefs. Like Piaget, he has exposed the problem of failing to respect the integrity of children. According to Elkind, this integrity is threatened when children are not allowed to learn, work, and play in a social and emotional environment that allows them to be children. Elkind sees society being pressured into thinking about children in a way that forces them to be more linear, abstract, and goal-oriented, and more adult in their thinking than they are developmentally ready for (Elkind, 1976, 1981, 1987). Society pressures parents and teachers to be impatient with the child's need for natural discovery and inquiry, the healthy development of the whole person.

Erik Erikson's theory of social development also illustrates the importance of social experiences. In Erikson's view, the stages of a person's development are characterized by a series of inner conflicts or "crises." The conflict associated with the Grades 3-4 child is one of developing industry as opposed to inferiority (Erikson, 1950).

Children are naturally drawn to act upon their world, use their senses, take risks, and construct and take things apart for focused, disciplined purposes. When this enthusiasm is not encouraged by important adults and role models, a sense of inferiority or lack of purpose takes hold, colouring the child's attitudes in later life. To understand the intimate characteristics of the child, the teacher and parent must know that the child needs time to explore and to develop the cognitive processes that are valued by society.

The work of Lev Vygotsky, a Russian psychologist who died in 1934 at the age of 38, has become an important addition to current understanding of experience and how it relates to the development of thought and language. Like all the other theorists noted above, Vygotsky sees experience as crucial to the development of thought and inner speech. He argues that a person develops language through an internal processor that takes in experience and mediates between the experience and the cognitive structures already in place (Vygotsky, 1962).

The socio-cultural world surrounding the learner is very important as this influences the symbols of the structures that filter experience. Further experience that alters a person's conceptual structures, as in Piaget's ideas of assimilation and accommodation, changes all previously learned structures as well:

"In instances of passing from one level of meaning to the next the child does not have to restructure separately all of [his or her] earlier concepts. Once a new structure has been incorporated into [his or her] thinking . . . it gradually spreads to the older concepts as they are drawn into the intellectual operations of the higher type" (Vygotsky, 1962, P. ix).

Vygotsky's ideas of "zones of proximal development" are important for teachers (Vygotsky, 1962, p. 103). Vygotsky observed that people assess a child's mental age by his or her ability to perform isolated symbolic tasks. He also observed that children can function at higher levels within supportive, cooperative environments where problem

solving can be approached in many ways with many aids to give the problem meaning. This is the zone of proximal development where the teacher can see what is ripening in the student and where the child's future understandings are going to come from. For their purposes, teachers need only recognize that new experience can alter the whole way in which a child looks at the world and that the world around the child directly influences how the experience itself is processed.

Some important threads running throughout these various developmental theories are

- All children, including those with special programming needs, learn in a developmental continuum
- Rich and varied experience is crucial to the healthy evolution of the child throughout the developmental stages
- To ignore the child's inherent nature is to limit any substantial learning and possibly inhibit the child's ability to feel confident and competent.

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SECTION B

CURRICULUM AND INTEGRATION

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SECTION B: CURRICULUM AND INTEGRATION

Introduction

"But We're Supposed To Follow the Curriculum!"

'I began my teaching experience in the inner city. I had been given the best that the university faculty had to offer and I was fairly successful in their eyes. I had already begun to collect games, books, and materials for my career. I had read all the curriculum guides and was very clear about their content for my new Grade 3 class.

Everything was in place for the first month of teaching. I knew which books I would use to teach spelling, addition and subtraction, and the "Communities" unit in social studies, and I had chosen my reading, math, and science series along with the stories that I was going to introduce to my students.

I was saved from a sense of terminal inadequacy after my first month by a couple of more experienced colleagues. They saw my enthusiasm being met with resistance from the students. They saw the books and scribblers I had so lovingly arranged for the students being treated with disinterest. They saw my misjudgment of the skill level of the students and my uncertainty about the students' social and emotional needs.

Most importantly, they saw my lack of flexibility in interpreting the curriculum to address the needs of the students. I was so conscious of being competent and accountable that I turned the curriculum guides into rigid authorities on my day-to-day teaching. In many cases I had been influenced by the "publishers' curriculum" – a pattern of predetermined skills and activities put together by book publishing companies to match the objectives of a standard North American curriculum.

My colleagues gave me the confidence to take risks and then watch for results. They knew that I was the best judge of how to approach the content and methodology of the guides. I was the authority on the sequence of skills the various children needed to learn. This sensitivity to the child as a whole person has been at the centre of my growth as a teacher for the past eight years.

Teachers are asked to look at the curricula in two ways. First, teachers are expected to take into account individual curricula with subject-specific lists of objectives and skill requirements. When these curricula are viewed in isolation the objectives seem unconnected.
After giving careful thought to the specialized content of curriculum guides, teachers should consider how to develop the curricula in the classroom with a particular group of people who possess a unique combination of interests and experiences. This second perspective of curriculum development is unique to the classroom teacher who facilitates a relevant learning environment for a group of students. Obtaining knowledge of the various parts of the curriculum is vital, but it is not the final step. The integration of those parts with the actual needs, interests, and lives of a group of students is a further step.

Teachers who are implementing a child-centred, active learning approach value a wide range of individual styles and rates of learning. They value the process of gaining understanding as much as the content of the understanding achieved. They value all children's needs as the starting point for action and their interests as the motivation for meaningful involvement. They value the ability to transcend isolated details. They value the need to be problem solvers in a world that generates more knowledge weekly than any one individual is able to absorb in a lifetime.

The Manitoba curricula attempt to embody these values. Each curriculum guide consistently makes references to other academic areas in the hope of making linkages. The first part of each document is devoted to philosophical statements about the need to balance meaning with information. The curricula make strong statements about the primacy of the process of learning in the classroom.

Section B of this sourcebook shares ideas on curriculum integration and demonstrates one model for creating an integrated unit. Section C contains information on long- and short-term planning, managing the physical and social classroom environment, and locating community resources. Section D discusses evaluation of, and communication about, student progress.

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Chapter 4

Uncovering the Curriculum: Finding the Connections

Teachers need to recognize that the early years curriculum should be integrated to accommodate the integrated nature of children's learning and development. The Manitoba curriculum guides are useful resources to consult for ideas on classroom processes and curriculum content. They contain sound activity suggestions presented with consideration and respect for the individuality of the learner.

Processes and content are integrated in the curricula in a way that should be reflected in classroom practice. Although each class has identifiable programs in each subject area, the relevant events in the classroom are not neatly encompassed by individual curricula. Bringing an animal into the classroom, for example, is a simple and common event, but where is it addressed in the curriculum? **In order to answer this question, teachers must "uncover" the curriculum.**

Observation of a crayfish is clearly a scientific process. Why do crayfish have certain structures? What are they used for? What and how do they eat? Do crayfish sleep? How many crayfish can live in an aquarium of a particular size? What happens if a crayfish is not taken care of?

But wait! The last scientific query is also a social studies question which, in turn, gives rise to other related questions. How do the humans in the class affect the environment of the crayfish? Could the crayfish live in a local lake? How does the local community treat its lakes and streams? Do other communities treat their environment differently?

The integrated approach opens up a floodgate to an abundance of questions and areas of research related both to social studies and science. If they were dealt with in the classroom they would use a full range of language skills and lead off into a rich array of other connections. For example: the question regarding the structure of the

crayfish is an excellent lead-in to a study of geometry in nature and the mathematics of structure; scientific observation and recording are clearly allied with major skills and processes of art in the areas of drawing and visual awareness; the care of the crayfish or any animal or pet is a responsibility that is valued in the Family Life curriculum.

It is the uncovering of these intimate relationships that is the basis of curriculum integration. An integrated approach requires significant planning, gathering, and organization of resources and ideas. It also requires a keen observer to evaluate where the interest of the classroom is headed and where the students' experience will influence the specific content. Being able to modify the direction of a unit of study on the basis of this ongoing collection of data is important in meeting the observed and expressed needs of the students and realizing the fullness of the experience.

The Seeds of Integration

All the curricula are linked by two threads running throughout the subject areas

1. The content objectives: the ''things'' that are taught.
2. The process objectives: the ways of knowing, understanding, and thinking about the content. Knowledge of the content is gained through observations, classifications, actions, values, analyses, changes, communication, explorations, questions, etc.

The seeds of integration are usually found in the curriculum content. The connections growing from the seedsare made through the processes outlined in the curricula. A novel, for instance, can be suggested in the curriculum guides and the connections that link it to students' lives are the students' own thought processes, feelings, and emotions.

An event such as an oil spill is an excellent starting point for integration. It arises from the context of the children's lives but is clearly part of the social studies and science curriculum content. Issues concerning people's attitudes and values regarding human comfort, the

protection of the environment, energy, and other ways of relating to the oil spill branch out from the event as processes of inquiry and imagination. These processes are also recognized in the curricula.

The seed of integration will often come from one of the curriculum guides. Commonly, it emerges from the language arts curriculum, but it could also come from science, art, mathematics, social studies, or health. This seed is then explored in its various connections to other areas of study, and the network of interconnecting relationships is revealed, or uncovered.

This chapter takes a look at some of the specific ideas and concepts in the curricula and how they are related to each other. A topic from one of the curriculum guides will be used to show how one topic can be naturally integrated with at least one or two other curricular areas. The purpose of this chapter is not to give an exhaustive demonstration of the interrelationships found in the guides, but to give some concrete examples and point to some natural connections between seemingly disparate concepts.

Science and Its Connections

Science is naturally integrated with all the curricula. It is used less frequently as the seed of an integrated unit; therefore, its potential should be uncovered. This section looks at a few ways in which science and other curricula are coordinated and connected in order to give support and meaning to each other.

The science curriculum can be looked at in two ways. The first way is to consider the processes involved. These constitute the foundation without which there would be no science. All the curriculum objectives are stated in terms of these processes. Each objective begins with words such as "observe," "infer," "predict," "measure," "classify," and so on. These kinds of objectives require students to be actively involved with real objects and organisms. Students must have some "things" to classify or observe before they can classify or visualize ideas. In addition, students must have rich experiences with such things as light, sound, or plants, etc., before they can make

inferences and intelligent predictions. In short, science processes support student decision making, problem solving, and active involvement with real objects.

The second, parallel way of understanding the science curriculum is through the three main content areas: Interdependency and Interaction Among Organisms (Biology); Changes in Matter and Energy (Physics); Earth, Space, and Time (Geography). This balance of content is holistic in its scope, covering the particulars and generalities of both the living world (Biology) and the non-living world (Physics) and incorporating the cosmic view of planetary forces (Earth Science). All of these content areas are taught within the context of value objectives dealing with human relationships and responsibilities to the environment.

What follows is a look at various curriculum objectives through the eyes of science. Relevant process or content areas in other academic areas will be highlighted in terms of their scientific context.

Science and Mathematics

"Interdependency and Interaction among Organisms: Biology and Its Mathematics"

- measuring populations of plants or animals in a small ecosystem
- measuring two different populations in the same ecosystem (e.g., different kinds of ants in an ant farm or different weeds in a garden plot)
- measuring water and heat for the study of optimum plant growth graphing plant growth
- comparing and communicating any experimental data numerically on charts and graphs
- using Carrol and Venn diagrams to classify species of animals and plants

(Carrol and Venn diagrams are valuable logical tools for understanding variables in any system. See Chapter 11 for examples.)

"Changes in Matter and Energy: The Mathematics of Physics"

- measuring time, mass, heat, force, volume, and length, all of which are skills required for scientific inquiry
- building structures applying knowledge of force, weight, and length
- measuring and comparing solids and liquids
- using equal arm balance to show force, which is also simple equation balancing
- using geometric terms in creating structures
- using Carrol and Venn diagrams for understanding variables of sound and electricity.

"Earth, Space, and Time: Measuring Planetary Processes"

- timing shadows and measuring their length
- creating 2-D shadows from 3-D solids
- measuring air pressure in standard or non-standard units
- predicting mass that can be supported by clay boats, etc.
- predicting proportions of water and air that will sink a hose.

These are sketchy outlines of the connection between science and mathematics. As older and more advanced students develop the ability to use standard measurements and begin to extrapolate data and compare it proportionally to other situations, the mathematical operations become very important.

The concepts of proportion, percentage, rate, and fraction are often relevant in the science class for understanding an in-class investigation of the real world. These interrelated concepts are also difficult and crucial mathematical concerns that are greatly enhanced when related to concrete experiences of the science units.

Science and Art: Two Old Friends Meet Again

- Historically, some people were both scientists and artists
  - Leonardo Da Vinci (1452-1519) was a painter and sculptor, as well as an architect and engineer
  - Beatrix Potter (1866-1943) was a botanist as well as a writer/ illustrator of children's books
  - early biologists were also sketchers and painters
  - artists have been the recorders of scientific history.

- Both science and art use a wide variety of materials and are concerned with an understanding of their properties. The construction of structures using these materials is important in both curricula.

- Making and recording observations are at the base of every scientific and artistic endeavour. The phenomenal world is of utmost interest to both disciplines.

- The value objectives in science are concerned with human relationships with water, land, plants, and animals. The art curriculum is likewise concerned with the intimate relationship of humans to the world around them:
  - How have people expressed this relationship in different cultures and times?
  - How does sketching, painting, sculpting, etc., help people understand the world around them?
  - Are emotions evoked by different seasons, landscapes, plants, and animals?

- Perceptual problems are crucial to both art and science
  - balance of weight in a mobile or structure
  - illusions of space and distance
  - 3-D expressed as 2-D
  - interplay of shadow and light, negative and positive
  - variations of hue, shade, and tint

- symmetry, tessellation, pattern, and order in the natural and manufactured world as functional and aesthetic concerns

- Higher order processes and thinking skills are valued in each curriculum
  - controlling variables in colour mixing
  - analyzing effects of joining and building with potters' clay, using various glues on different materials, etc.
  - visualizing and predicting the sequence of processes in a printing technique in order to produce a particular outcome
  - controlling variables in printing, sculpting, and painting based upon the collection of data from previous experience
  - description, analysis, interpretation, and judgment are only some of the processes used in visual awareness and art appreciation, which constitutes two-thirds of the art curriculum.

Science and Social Studies

The Grades 3 and 4 social studies curricula focus almost exclusively on communities (the one exception is the Grade 4 unit on ''Locating People and Places Around the World''). These social studies units look at the community situation, the history of the community, and the unique needs and wants of the community. Communities are affected by their history, location and demographics, and the politics or cooperation and conflict within the community. This structure is used to explore the students' local community, as well as another community in Manitoba, one elsewhere in Canada, and, in Grade 4, a community in another part of the world. All communities have their peculiar technologies, environmental concerns, and ecosystems. These issues are equally important in the science and social studies curricula.

The following points are statements of obvious integration between the Grades 3 and 4 science and social studies curricula. They have been organized in categories corresponding to the science content areas for each grade.

"Interdependency and Interaction Among Organisms: How Living Things Relate to Each Other and Their Environment"

Grades 3 and 4

- "Population" and "community" are scientific and sociological terms important to both curricula.
- Powerful parallels and comparisons can be made between populations and communities of plants, humans, and less evolved animals.
- The growth of a population and a community is influenced by similar factors for all organisms.
- The comparison of different communities includes a comparison of their habitats, which is an objective in Grade 4 science.
- Overpopulation and pollution are scientific and social concerns.
- Interdependency among all organisms is an important objective in Grades 3 and 4 science and social studies.
- The cooperation for shelter and care of each other is a common objective in Grades 3 and 4 science and social studies.

Grade 4

- There are similarities and differences in the ways that different human societies raise their young.
- The food chain and the interdependency of organisms is important in a study of communities. Some communities are closely tied to the local food chain, while others are in greater opposition to the food chain.

- Observing how populations cause environmental change is a concern for all communities.

"Changes in Matter and Energy: How Physics Relates to the Way People Live"

Grade 3

"Heat and Temperature"

- Different communities use different forms and amounts of energy.

- People in hot climates and those in cold climates adapt differently to the effect of temperature. Insulators and conductors of heat are well known to the Inuit and the Bedouins as well as to technological societies.

- Expansion and contraction of matter due to temperature fluctuation causes extensive damage to buildings and roads. Students could respond to this community issue by organizing a "Community Pot-Hole Watch" as a social participation objective in the social studies curriculum!

Grade 4

"Sound"

- While some communities have a sound pollution problem, others such as those in some areas of northern Canada are extremely quiet because the wind cannot cause vibrations in the air due to the absence of tall trees and buildings.

- Some occupations in a community may have a great deal to do with sound: factory workers, piano tuners, hearing doctors, and musicians.

"Structures and Forces"

- Different communities use different materials for their buildings and different structures to adapt to their environment more effectively.

- Construction in a local community is a good resource for looking at the use of shape and material for different construction purposes.

"Electricity"

- Some communities have electricity and some do not.

- The source of energy in communities affects such things as the way people heat their homes and do their cooking, the amount of money they must spend, and the amount of pollution and health problems they have.

- Nuclear-, hydro-, and coal-fueled power plants each have distinct advantages and disadvantages for the community.

"Earth, Space and Time: People Interacting With the Planet"

Grade 3

- Different climates have different weather phenomena that affect communities (e.g., monsoons, chinooks, and drought).

- The length of the day, the movement of the moon and constellations, and the seasons are unique to communities in different parts of Canada and the world.

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Chapter 5

Further Uncovering of the Curriculum Through Language

The previous chapter explored how one subject area, science, can uncover the interconnections between other subject areas, such as mathematics, art, or social studies. The suggested interconnections were not even close to being exhaustive. Clearly, the language arts objectives were also promoted in each topic or objective discussed in the preceding chapter.

Sight, hearing, taste, smell, and touch are vehicles for gathering the "stuff" of learning. Listening and reading are the receptive language skills used for collecting the most abstract forms of information. The expression of this information and the ideas that arise from processing this information is accomplished with the expressive language skills: speaking and writing. Music, dance, and the visual arts are also expressive skills which, in turn, become the impetus for further experience and discussion.

In short, the language arts are wholly integrated in the process of uncovering the curriculum. The language arts curriculum recognizes the primacy of experience as a basis for acquiring language skills. People write and speak about their experiences in the hopes of generating further understanding. People read and listen to confirm their experience, to explore new experiences, and to understand how other people think and act.

In all the interconnections previously uncovered, a significant amount of reading, writing, listening, and speaking is required. A teacher who sees this can uncover the opportunities to teach specific skills in the context of these topics. In reading, students can be introduced to new vocabulary and to different styles of language use depending upon where and when a book was produced. Oral reading for the benefit of classroom presentation is an integral part of all the topics previously discussed. Writing is a major way of communicating information to the teacher, students, school, and community. In addition, it can

become the raw material for the teaching of writing skills in the areas of spelling, sentence structure, revision techniques, sequencing of ideas, persuasion techniques, editing, etc.

The class as a whole must listen to presentations and reports from class members who, in turn, must listen to feedback from their audience. Conferences between individual students require attention on the part of the listeners so that they can offer constructive reactions.

The use of speech in presenting information is clearly important in every subject area. Speaking skills should be taught in science so that science can be made available to a wider audience, an issue that is obvious to judges and participants at science fairs. Speech is also important in the social participation objectives in social studies when trying to convince people of community needs. Furthermore, the voice is important in music and drama, both of which are expressive vehicles for many classroom topics.

Language Arts and Its Connections

The following discussion will reveal how the language arts can serve as a seed for uncovering connections in other subject areas. It is common to find exciting thematic units based upon types of literature such as mystery, legend, realistic fiction, or fantasy. These themes, as with all themes, are grounded in the students' own experience.

Children read literature as adults read literature. Their interactions with the characters are influenced by the same likes and dislikes as those of adults and their responses to a story are as varied as those of any group of people discussing a book. The integrity of this author-reader relationship is respected when facilitating discussion, writing, reading, art, or any investigation arising from the reading of literature.

Response journals provide opportunities for children to write down their natural responses to the literature they read. Journal writing can be included in silent reading time during the school week, and can also be encouraged outside of class time whenever students read. The response journal is a student's record of the thoughts and emotions,

likes and dislikes that arise while engaging in a literary work. In addition to reading the students' journals, teachers could make entries of their own. In this way, teachers develop a written dialogue with the students, sharing different opinions and ideas to the mutual enhancement of each other's experience of the literature.

In general, children will respond individually to literature of their own choosing, but read-aloud books which the whole class can listen to and read along with can be used for response journals as well. In these situations the class could brainstorm a list of their interests, favourite parts, questions, or personal memories inspired by the book. The brainstormed list could become the framework for numerous extensions of the literature grounded in the children's natural response to the literature.

The following set of activities, broadly categorized into curriculum areas, are presented as possible extensions arising from varied responses of a Grade 4 class to Katherine Paterson's *Bridge to Terabithia.* This novel is about Leslie, an urban girl who, together with her liberal parents, moves to a conservative rural community, and her friendship with a local boy, Jesse, who is artistically inclined but is constricted by his family and social context. Leslie and Jesse become close friends and spend time creating a fantasy world called Terabithia in the woods on the other side of the creek. Not all the suggested activities would be done by all students; some would be done individually, and some in small interest groups.

Social Studies: Life and Interaction through Literature

- The lives of Jesse and Leslie will add an emotive context to the Grade 4 study of two different communities, one of which is progressive and involved with the arts and the other is more traditional and economically depressed.

- Does the environment influence people's values? Does living in the vicinity of museums and galleries affect people differently than living in a farming community? These and other discussion

questions arising with some students could lead to writing, and drama,

- Discuss similarities and differences in the roles of males and females in the city and in the country. (This is also a Family Life question.)

Science: Inquiry and Problem Solving

- Bridges are an important image in the story. Build bridges using various materials and structural designs and determine which would be the strongest structure.

Art: Visualization of Literature

- Design the bridge leading to Terabithia.

- Make a diorama of Terabithia.

- Jesse experiences opposition to his desire to become an artist. Research other artists to see if there are any patterns corresponding to Jesse's experience.

Family Life: Real Issues in Realistic Fiction

- The following situations occurring in the novel are relevant to the Family Life curriculum and could be processed through discussion, role-playing, drama, art, etc. Specific issues will arise out of the reader's natural response to the relationships expressed in the novel.

  - Jesse and Leslie are teased for being friends and Jesse is hurt by this.
  - Jesse feels constricted by his little sister May Belle and wishes she would leave him alone. May Belle looks up to her big brother.
  - Leslie shows Jesse how to express his creative nature without being concerned so much about what others think.

- Leslie has interpersonal skills that Jesse finds amazing. What are they and how are they useful?
- Jesse feels guilty for Leslie's death.

Language Arts: Expanding the Author's Voice

- Jesse and Leslie create a fairy tale world of their own. Have students create their own world, using art, writing, drama, and music.

- Have students create and present a fairy tale of their own fantasy world.

- Speculate on the origin of fairy tales.

- Discuss the characteristics of fairy tales.

- Make a class list of the difficult or interesting vocabulary in *Bridge to Terabithia* and have students practice using the words with each other. Together with the class, make up individual spelling tests of words from the book which the students would like to learn to use.

- Dramatize favourite parts of the novel.

- Have students write a conversation between Jesse and Leslie occurring after the book has ended (Leslie would be a ghost).

- Have students individually or as a class write a letter to the author, Katherine Paterson.

It is hard to limit the extensions and interconnections that can be uncovered between a seed idea from one subject area and the other curricula when the mind is turned towards the task. The example of Bridge to Terabithia shows how one piece of literature can become a central seed for an integrated unit where all the separate parts lend context and momentum to the others. There is an even more important

issue at hand here: the curriculum is personalized for students in an atmosphere of uncovering. When students begin to find their own connections and value their own interests, they discover meaning in the curriculum that is directly relevant to themselves as individuals.

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Chapter 6

Choose a Seed; Plant It; Watch the Roots Spread

This chapter gives teachers an opportunity to familiarize themselves with the process of webbing starting with the selection of the centre of the web, the seed idea, and proceeding to the organization of the classroom experiences that arise from the web.

Long-term planning will establish the breadth and depth of topics and processes to be covered at certain times of the year. This will influence the choice of seed ideas, ensuring that they are not all science-oriented or all literature-oriented. Particular units or topics that need to be covered during the year should take precedence as seed ideas. If, for example, a comprehensive coverage of mapping skills has not occurred by March, then "Maps" might be an appropriate seed idea for a unit that could uncover a rich array of connections to other subject areas.

Choosing a seed idea is a skill that teachers develop with practice. Some ideas or objects have fewer connections than others. Some are so vast in their relationships that the scope of the unit can get out of hand and the unifying thread can become obscure. It is best to start with a brainstormed list of seed ideas from which to choose.

In her book, *Serious Players in the Primary Classroom* (1990), Selma Wassermann discusses using "big ideas--those issues of consequence that illuminate our understanding" (p. 97), as opposed to "small ideas" which deal primarily with the acquisition of facts.

The following is a list of potential seed ideas that could be brainstormed. The topics listed have varying significance, scope, and connection with specific curricula.

journeys	magic	time
owls	Halloween	directions
puppets	(calendar events)	spiders
advertising	bicycles	cloth
trains	trees	fruit and vegetables
games	the sun	friends
stories	desert	pollution
the face	dessert	myths and legends
water	money	mystery
inventions	the family	maps
fire	air	shadows
Alexander Graham Bell		patterns

There are numerous factors to consider when choosing a good theme idea:

1. Good seed ideas lead to

   - facts and information
   - creativity
   - development of interpersonal skills, attitudes, and values. These three areas assure a broad context for relating to all curriculum areas.

2. Many good seed ideas will suggest immediate associations with a number of specific concepts directly from the curricula. (For example: "Bicycle" – wheel, simple machines, transportation, energy, balance.)

3. To be successful, a theme needs to uncover something interesting for the student and the teacher. This is not always the case, particularly when a teacher does not have an interest in a particular subject area. Part of the "art" of inspired curriculum development is to **uncover** an interest in, or curiosity about, a topic. (For example: Math phobics could read *The Phantom Tollbooth* by

Norman Juster and have fun with the language and the double entendre. Those who do not like teaching fractions may find enthusiasm for cooking and baking half, quarter, and third recipes.)

4. Some seed ideas are extensive in their scope. This could cause problems if the teacher is not ready. (For example: A ''Water'' unit could easily cover the objectives of four or five complete units in the curriculum guides or could last all year. A ''Patterns'' theme may be appropriate for a year-long study within which a number of smaller units could be organized.)

5. An integrated theme will undergo change during the course of study as it grows with the ideas of the children and the teacher. This issue is important for all seed ideas. The interests and knowledge of the children, which cannot be fully predicted, will push the content of the theme in different directions. Important new associations will also form in the teacher's mind as the theme is underway. **The teacher should be ready to adapt the pre-planned agenda to suit the energy of the participants**. Some activities will show less potential than anticipated once they have been introduced and developed. Others will require longer time periods and inspire the exploration of fruitful tangents.

Using Webbing in Planning a Theme

What Is Webbing

Webbing is a non-linear technique of uncovering the interconnections between a seed idea or object and other related concepts, events, and objects. The seed idea is written on a blank piece of paper and the teacher or group of teachers brainstorm other words to revolve around that word. Associations are then made with any word that makes its way to the web. In the process of webbing it may become clear that a related word should replace the original seed word as the centre of the web, simply through the number of associations that are made with it. In this way the ''name'' of the integrated unit may change.

In the following example, Figure 1, the word ''puppet'' is written at the centre of the page and a partial web is formed around it.

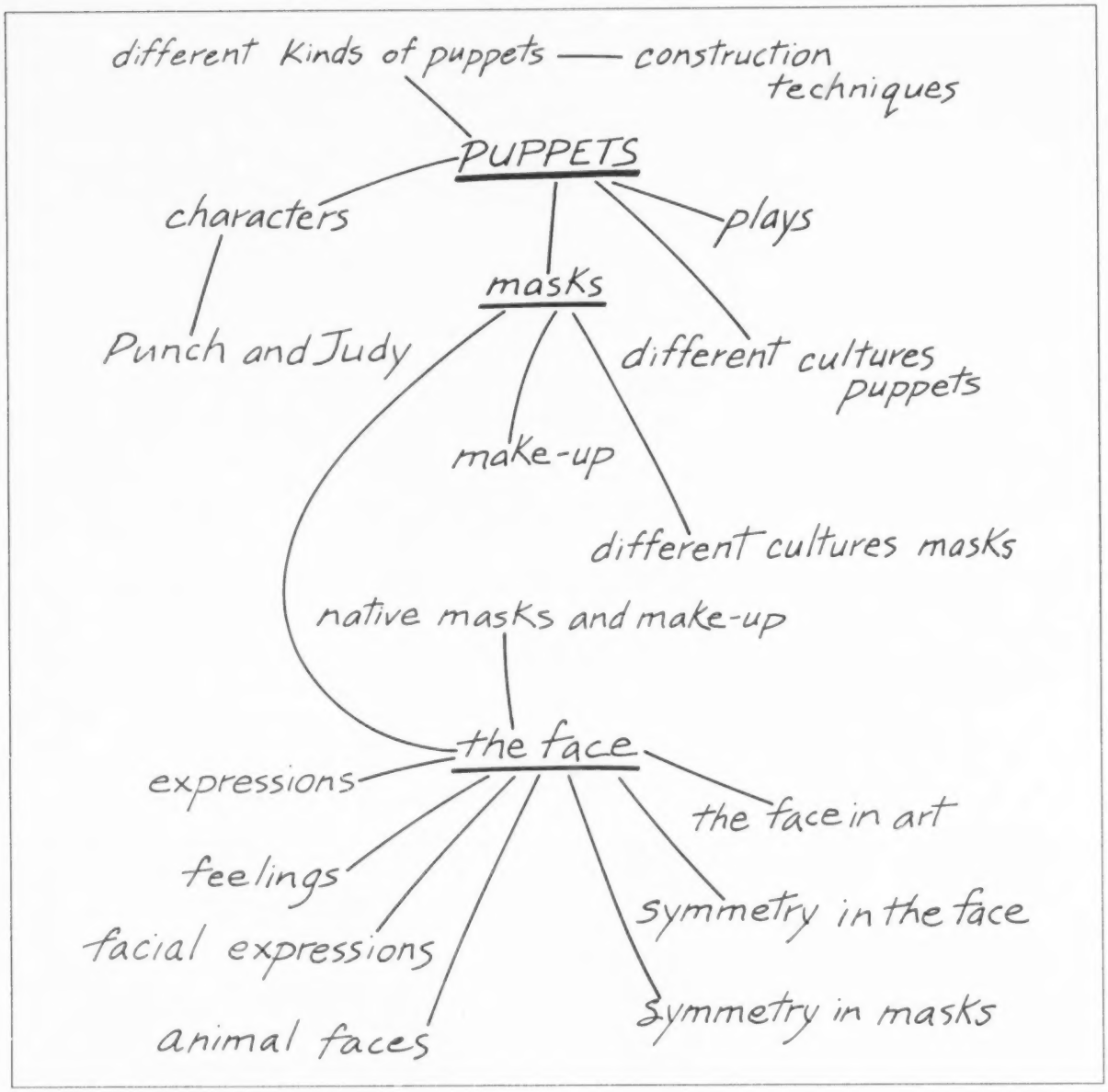

Figure 1

In looking at the web it seems that ''puppets'' are of equal importance to masks and characterizations. With the addition of the ideas of ''expressions'' and ''make-up'' to the web, more associations are found and the centre of the web changes.

It is now becoming clearer that the central idea or seed is ''the face.'' In addition to unifying puppets, masks, and make-up, the idea of ''the face'' includes a wider array of dramatic arts than just puppets, and allows for flexibility in drawing upon cultures which might not use puppets. ''The face'' may uncover wider connections with other subject areas. As webbing proceeds, the attention of the planner turns toward ''the face'' as a seed concept and continues as before.

(See Figure 2 on page 68)

Each word or phrase contains the seed for a lesson, a series of activities, an interest centre, or a research project. It is important to categorize these to see which subject areas are being covered and to get a picture of the unit as a whole.

Webbing with Students: Making the Web Child-Centred

It is necessary to plan themes ahead of time for the practical purposes of collecting materials and allocating time, space, and energy. With experience, teachers can predict what will interest their students and how to elicit student interest through the curriculum and the class themes or projects. Nevertheless, in order to obtain the students' true response and to spark their sense of ownership, teachers must involve students in the planning of any theme before initiating or proceeding with it.

The sequence of planning a theme might be carried out as follows

1. Sketch out a web as shown previously. Throughout this process, refer to the curriculum guides for ideas, but do not limit the web to curricular content objectives. Use this plan as a prediction for what might arise in class and what areas of interest the students might have.

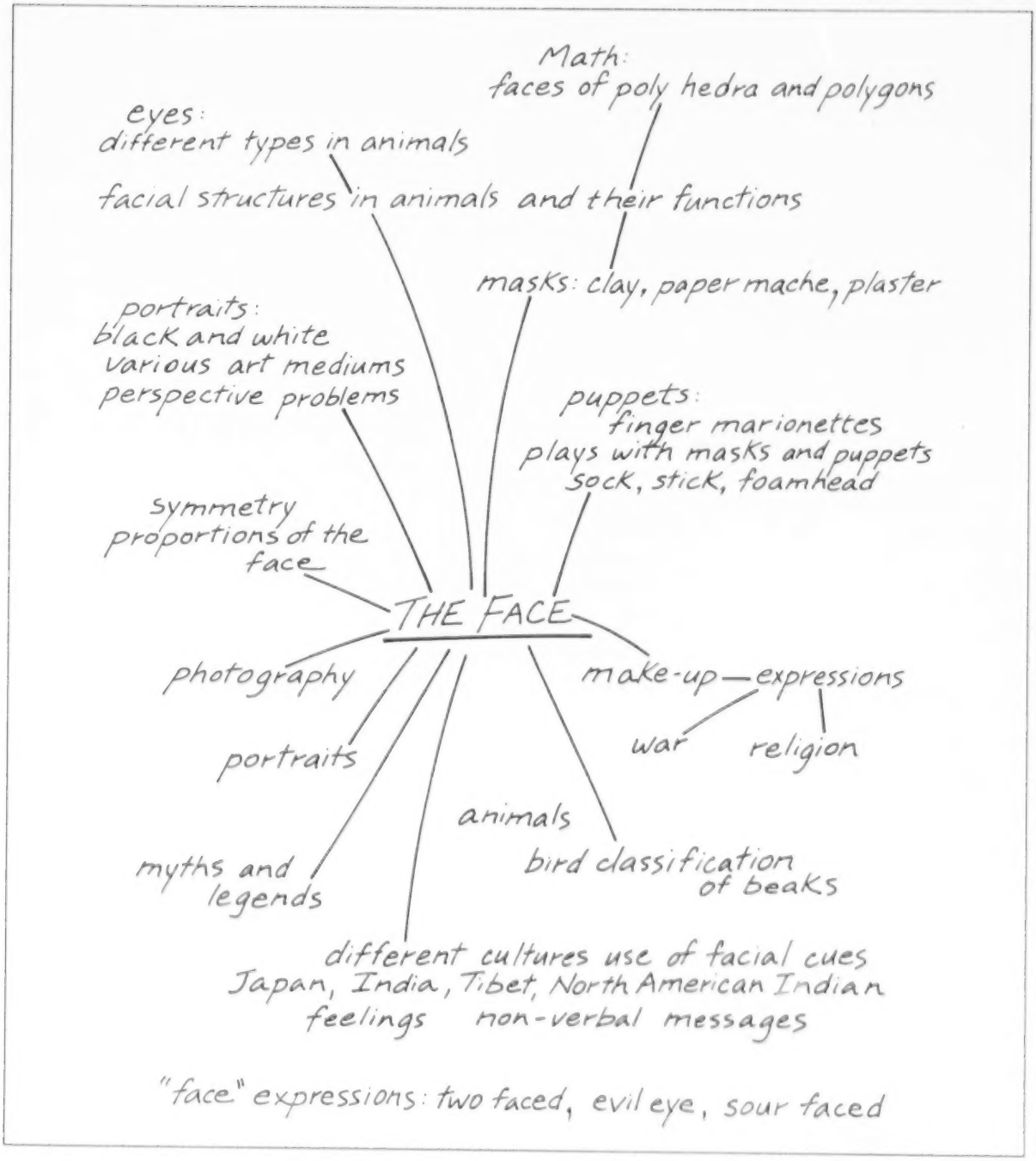
Math:
faces of poly hedra and polygons
eyes:
different types in animals
facial structures in animals and their functions
masks: clay, paper mache, plaster
portraits:
black and white
various art mediums
perspective problems
puppets:
finger marionettes
plays with masks and puppets
sock, stick, foamhead
symmetry
proportions of the face
THE FACE
photography
make-up — expressions
war
religion
portraits
animals
myths and legends
bird classification of beaks
different cultures use of facial cues
Japan, India, Tibet, North American Indian
feelings
non-verbal messages
"face" expressions: two faced, evil eye, sour faced

Figure 2

2. Think of a rich experiential presentation to attract class interest. For example, a classroom display of pictures and paintings of faces, masks, and puppets would interest students in a "The Face" unit. Leave the pictures up for a day or two. Tell the students that they will be planning a unit on "The Face" in the near future and pay attention to how they respond to the visuals.

3. Hold a planning session with the students, creating a web on the chalkboard or chart paper, or with an overhead projector. As the web emerges, refer privately to the "teacher web" and see if there are any areas of interest that could be explored further as the planning session proceeds.

4. Remind the class of the variety of ways they can approach the topic: research, different art forms, drama, recording, reading and writing, work in the community, field trips, inviting visitors, individual and small-group work, etc.

   Collect class ideas for exploring the different parts of the web by

   - having ideas placed into a suggestion box or entered onto a separate chart
   - brainstorming again in the large group
   - having small groups make plans for the unit and then share them with the large group

5. Place the student and teacher activities on a calendar while considering the following questions

   - What are the time commitments required for each part of the plan?
   - What materials and space are needed for these activities?
   - Are there any field trips to plan?
   - How many small-group and large-group activities are included in the plan?
   - What curriculum content is being covered?

- What other course content needs to be taught apart from the theme?
- Should the room be re-arranged to accommodate this theme?
- Who can be brought in as a guest expert for the unit?
- How does the schedule of itinerants affect the plans and needs for longer time spans?
- Are there opportunities for exercising individual choice and exploring individual interests in the unit?

These questions have implications for how each activity of ''The Face'' unit is carried out. Some activities would involve the whole class, while others would be set up as centres to be used for two or more weeks. Activities could involve small group structures, large space requirements, or extra material or people. One activity might be completed within the time frame of one class or school day, whereas another might be developed over several weeks. These kinds of details are determined by each individual situation.

What follows is the development of ''The Face'' unit and a categorization of the unit into subject areas. The specific space, time, and resource requirements for each activity or idea are to be determined in relation to the needs and interests of individuals in each unique situation.

A portion of this unit might evolve in the following way

Science

- Collect visuals of birds. Classify the facial features: eyes, beaks, ears. Infer the function of these features. Classify the birds according to their features. Compare to the standard classification system.

- Do the same thing with mammals. Is it possible to classify herbivores, omnivores, carnivores, and insectivores according to facial structures? How do these structures allow animals to function in their respective habitats?

- Classify a wide variety of eyes. Compare the eyes of a human, owl, cat, and fly. Dissect a cow's eye.

Mathematics

- Discuss the term "face" as an attribute of solid shapes. Explore the Greek numbers that indicate the number of faces in a solid shape. Use "Zaks," "Googleplex," and "Orbits" to make solid shapes with different numbers and shapes of faces.

- Discuss proportion and ratio with reference to the face. Have students measure the width and length of their own faces (using a long thread), double each measurement, and represent that length on a large sheet of paper. Have them carefully measure each portion of the face and its position on the face and reconstruct a two-dimensional self-portrait that is twice as big as the actual size (2:1 ratio).

- Repeat the exercise but have the students draw their faces scaled down to one third of the actual size. They would measure their own faces with thread and then fold that length of thread into three equal pieces to arrive at the desired length for the drawing (1:3 ratio).

- Use Carrol and Venn diagrams to help classify the attributes of the face in the science lessons.

Language Arts

- Collect verbal expressions related to the face: two-faced, save face, sour-faced, face-off, face-to-face, face the music, evil eye, forked tongue, bald-faced, shamefaced, egg on the face, scar-face, face the facts, stone-faced, change of face, etc.

- Pantomime the above expressions. Explore communication through facial expression. Pantomime the passing around of imaginary

objects and have students use facial expressions to convey qualities of, and reactions to, these objects (e.g., size, shape, attraction, or distaste).

- Study the facial illustrations in fairy tales, folk tales, legends, etc., to determine the qualities of specific characters. For example: collect different versions of "Cinderella" and "Hansel and Gretel." How are the witch or the fairy godmother, the prince or the stepsisters portrayed in each version? What facial qualities are most effective?

  Look at the work of book illustrators who are particularly skilled at characterization: Don Wood (*Heckedy Peg*), Chris Van Alsburg (*The Mystery of Harris Burdick*), Maurice Sendak (*Where The Wild Things Are*), Ezra Jack Keats (*Apt 3*, etc.), Ian Wallace (*Ching Chiang and The Dragon's Dance*).

  Look at the traditional use of masks and make-up in telling legends and fables (e.g., in "Anansi the Spider," and in *The Master Puppeteer* by Katherine Paterson).

  Read novels in which the face is important. In *The Wonderful Story of Henry Sugar* by Roald Dahl the main character hires a famous make-up artist to disguise him so that he can infiltrate gambling casinos to drain them of their money and use it for charity. Other stories in which the face figures prominently include the following

  - *Pinocchio* is a story in which a lie is recorded on the face for all to see
  - *Snow White* has a witch that disguises her face
  - *Just So Stories* by Rudyard Kipling are fantasy tales about how some animals came to have the features they do have
  - *Redwall* by Brian Jaques has vivid physical descriptions of the characters Cluny the Scourge and Martin the Warrior.

  Use puppets and masks to present a play.

Have a ''Day of Disguise'' where the class members change their features for a day. They could assume the identity of a favourite character from literature, or simply disguise their own characters

Family Life

- Look at the way people communicate with their faces. What are the common ''looks'' that are often interpreted in certain ways? Are there stereotypes of faces? Look at magazines to see if certain faces portray certain characteristics: a high forehead, glasses, beard and moustache, heavy eye shadow, nose size, skin colour, etc. Look at how these are cues to stereotypical attitudes and discrimination

- Have pairs of students devise a ''face language'' so that one partner can use this language to lead the other through an obstacle course walking backwards. One partner would communicate to the other about direction, distance, stopping, advancing, etc. The person actually carrying out the directions would wear ''blinders'' to restrict sight to tunnel vision, eliminating all peripheral vision. This person would have visual contact only with the assigned partner while the partner is walking backwards. Ensure that appropriate safety precautions are taken.

There would also be pre-determined activities to do at various points in the exercise: pop a balloon above the head with a pin; move a coin from one circle on the floor to another using the feet, etc.

Art

- There are multiple techniques and media with which to explore the face

  - pencil and charcoal sketches
  - contour and gesture drawing
  - monochrome painting (single colour, black and white)
  - painting with watercolours or gouache
  - combining paint and pencil
  - clay masks
  - papier-mâché masks
  - plaster masks
  - stick puppets
  - foam-head puppets
  - finger puppets
  - marionettes
  - collage faces
  - print making
  - sculpture

These media/techniques should be used to explore straight views, quarter turns, and profiles.
The self-awareness theme in the Grades 3-4 Art curriculum focuses on moods and feelings. Explore this theme further in combination with the activities presented above under "Language Arts."

Focus on the use of separate art principles and elements as important means of expressing character: line, texture, colour and value, shape, movement, contrast, etc.

It is important to look at many samples of art and photographs to discover representation of character, personality, lifestyle, role, rank, feelings, etc. Look for clues such as clothing, background, objects, colour, other people, etc.

Social Studies

- The social studies component of this unit depends largely upon which communities or community could best be incorporated into the unit. Masks/puppets may be an important part of the culture in some communities, while in others they may have little cultural significance. If they are important to a community, then the connection to the unit is obvious.

- An interesting discussion of a community could extend the meaning of the word ''face'' to include

  - **Face** – ''The outward appearance of a place.'' This is important in studying communities that are not ''beautiful'' in a stereotyped way. Cheticamp on Cape Breton Island is flat, spread out, and smells like fish. Its outward face may not necessarily convey the richness of the fishing village or the Acadian heritage of the inhabitants.

  - **Face** – ''The value or standing of a people in the eyes of others.'' This could be an interesting definition of ''face'' for a study of a country's history (e.g., Germany, Japan, etc.).

  - **Face** – ''Meeting one's responsibilities.'' This definition is relevant when discussing the process of meeting the needs of a community.

One or more subject areas may not be well represented in a specific unit. The omission of an area is a reasonable and common occurrence. However, as a result, special emphasis on that particular area is

required at another time. In fact, this may be the case with the unit outlined above, depending upon factors such as the kinds of resources available for the study of a particular Canadian or world community, the creative math associations made, or the ability to appreciate the various uses of the word "face."

Further Reading

Baskwill, Jane. 1990. *Connections.*
Brownlie, Faye, et al. 1988. *Reaching for Higher Thought.*
D'Arcy, Pat. 1989. *Making Sense, Shaping Meaning.*
Gamberg, R., et al. 1988. *Learning and Loving It.*
Johnson, Terry D., and Daphne R. Louis. 1990. *Bringing It All Together.*
Katz, Lillian, and Sylvia Chard. 1989. *Engaging Children's Minds.*
Ohio State University. 1976-1991. *The WEB.*
Rico, Gabriele. 1983. *Writing the Natural Way.*

SECTION C

MANAGEMENT AND MECHANICS

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SECTION C: MANAGEMENT AND MECHANICS

Introduction

Along the Path

Running a classroom is a complex process requiring thousands of decisions every day, a challenge approached in different ways by each teacher. A teacher who has worked in similar situations for many years may find that there are a diminishing number of big questions to be addressed. When the situation is fresh or new, the decisions to be made are unfamiliar and their effects uncertain. All teachers must eventually find their own way. Nevertheless, teachers on the way to developing an active, open, student-centred classroom can benefit from helpful suggestions.

A variety of choices available to teachers will be presented in this section. These choices represent a continuum that begins with a high degree of teacher control and decision making and moves progressively toward a high degree of student decision making.

The greater the degree of student responsibility that is nurtured, the greater the degree of student investment in the curriculum content. The greater the degree of responsible student choice found in a classroom, the higher the cognitive and affective levels of involvement demonstrated in the students' work. The purpose of any change is to enhance the achievements and self-confidence of the students.

It is hoped that teachers will move towards increasing student involvement in the classroom environment. Factors to be considered in this step-by-step process are

- the size of each step the individual teacher is comfortable with
- the size of each step the students are ready for
- the rate of change that is most effectively dealt with by the teacher and the students
- the understanding on the part of the teacher as to the purpose and possible outcome of each step

These considerations guide the children in developing strength and confidence to become lifelong learners.

This section will outline possible directions to take in the areas of time management, space management, behaviour management, and resource management. A discussion of the community and parents is included.

Chapter 7

Time Management: Planning

Long-Term Planning

Long-term planning enables a teacher to consider the curriculum as a whole before separating it into units of study. It also gives a teacher a comprehensive view of how the curricula can and do work together. An overview of the various curricula can reveal many natural partnerships.

In preparing a plan for the year, a teacher could incorporate the following steps

1. Know all the parts within the curriculum. Know the whole as well so that the overlaps are visible. The more familiar the different curricula become, the more integrated they will seem.

2. Consider personal interests and strengths. Being the "nerve centre" of the classroom, the teacher's energy can carry the students a long way. A teacher who is interested in a particular hobby, craft, place, kind of wildlife, or time in history, etc., will have the necessary resources to make a related activity a successful venture.

3. Look at the units within the curriculum that might generate the most energy for exploration and expansion. Use them as nuclei around which other areas of study can be integrated. Social studies and science units are wonderful contexts for mathematics and language education. The language arts are being developed whenever the students are listening, speaking, writing, or reading.

4. Expand personal ideas into a thematic unit with the students. (If teachers know the students they are going to teach for the year, then the students' interests should come first; however, it is assumed that most teachers will be meeting new students at the beginning of the year and so the expansion of the teacher's ideas in combination with the students' ideas is a crucial opportunity for students to invest in the learning experience.) Use either a "web"

or a concept map to stretch each idea into as many connecting areas as possible. Consider all areas of study for this exercise.

5. Identify curriculum objectives to be covered in each unit for the various curricula.

6. Place ideas on a year's calendar so that each unit corresponds to an appropriate season or time of the year when specific events will occur, or the time when the energy level of the class is most likely to be right.

7. Assess which areas of study have not been incorporated into the year's plan, and design and schedule the units that still need to be integrated. **These may turn out to be subjects for which the teacher has less fondness.** Talk to teachers who enjoy teaching these particular units and catch the spirit of enthusiasm from them.

8. Identify which isolated skills or objectives do not fit into the long-term plan and schedule them as separate periods of the day throughout the year. (Mathematics seems particularly susceptible to this kind of treatment.)

The sample Year Plan (see Figures 3 and 4 on the following pages) outlines a very general plan for the year. It does not show the details of every curriculum area; however, it does place six-week-long block units in a seasonal sequence, outlines a balanced focus between the various subject areas, schedules the majority of the field trips for the year, and allows flexibility in the length of time each unit might take. A basic structure such as this can serve as a constant reference point for the teacher throughout the year. It also can be and is an excellent communication tool when relating to parents and administrators.

This plan, however, does not convey the changes that must be made when implementation is influenced by the needs and choices of the students. The character and emphasis of some units might turn out to be very different than anticipated. Some units might be very short or very long. Some units could be omitted and others shortened.

Figure 3

SAMPLE YEAR PLAN

SEPT	OCT	NOV	DEC	JAN
Community Unit Intro Ant farm Bee hive Short observational records **Gr 4 Science** Pop interaction	↓ Wrap up: Display of fictitious comm, comm maps, etc.	PEACE WEEK ACTIVITIES	Puppets - foam head - found obj art Stories & drama with masks ↓	**Water Unit** - collect containers of different sizes & shapes - intro stream table - set up use, schedule & observation
Math with insect # e.g. 3 abdomen 6 legs Mapping classroom ant farm	**Hansel & Gretel** - Present many versions - children read - respond	**Faces Unit** Self-esteem lessons	↓ Holiday activities	Snow study - Temperatures of water & snow - Water colour painting
Community action - Individualized projects	Use chart to compare versions witch | house | forest | etc p ½ ¾	Look / draw Symmetry Masks plaster clay		Displacement volume - Decimals with l, dl, ml, etc. UNICEF Guest Presenter
Community map community work with parent volunteers	Survival in woods: mazes compasses puzzles Mapping activities	Colour: Tints & Shades Proportion Measure & Draw (2:1) or Measure & shrink by ½ (1:4)	Break ↓	Filtering water Field trip: water treatment
Fictitious Island Community Small group project	↓ Drama Make original version of "Hansel & Gretel" or any drama inspired by "Hansel & Gretel"	Portraits of - Van Gogh - Picasso - African Art - Rembranot	↓	Bubbles & water sculpture with found objects

Figure 4

FEB.	MAR.	APR.	MAY	JUNE
SCIENCE FAIR	Pulley investigation 1 & 2 pulleys Free exploration Picture guides Compare pull & lift wt.	SPACE Collect space stories - 2d & 3D space forms	Mysteries Unit - favorite mystery books - collect characteristics of mystery stories	Environmental Awareness - Review Gr 4 Pop. Interaction
Tools Prep - collect strong cardboard tubes - long boards, string, weights, thread, spools	Inventors Kids bring favorite inventions, look for inventors - Imaginary inventions	Classroom Space - Have class design room arrangements & then critique in writing	Personal Experiences with Mysteries - Math mysteries - Logic problems	Life Cycles - Mosquito - Frog Collect for class
Tools (Forces & Motion) Chart: Pulley, Wheel, Lever, Wedge our comm. Cree wk place home	Animals - Adaptations to Environment Eg - Birds' beaks & claws	Earth, Sun, Moon - Gr 3 Science - Use binoculars - Have evening records of Moon position & phase	Small Group Mystery Filming with Camcorder	Camp Students organize food and equipment
Tools of a Culture as Art Objects Exploration of Different Levers 2x4's etc	Make Perpetual Motion Machine - Mobile - Action/Reaction Machine as end activity			Year-end Activities
Women's Tools Men's Tools			Camping Trip: Cooperative Groups, Tent Groups, Committees: Food, Rules, Activities	

Following is a five-week plan for the "Water" unit scheduled for January. It draws heavily from the Grade 3 Science unit "Changes in Matter and Energy," the Grade 4 Science unit "Water and Land," and all social studies objectives dealing with community needs and comparisons of different communities, environments, and uses of water. Note the changes that have been written in. They represent modifications to the plan that arose out of student needs and interests. (See Figure 5 on opposite page.)

Short-Term Scheduling

Among the many variables to consider when scheduling the school day are the following

- When is the itinerant teacher time scheduled?
- What large blocks of time are needed?
- How much whole-class or small-group instruction time is needed?
- How much choice time is available during the day?

General rules such as the following are useful in preparing a weekly schedule.

1. Do not try to cover all subjects every day.

2. Double up the suggested daily time allotment for particular subject areas, alternating blocks of one hour or more between two subjects over two days rather than trying to do both subjects in one day.

3. Consider trying longer term emphases of the dominant subject focus of the class. This happens naturally when thematic units are used, as they often have two or three strongly represented subject areas and two or three tangentially represented subjects.

4. Always consider how much choice is available in the schedule. This is important for teaching responsibility and for creating an atmosphere of empowerment in the classroom.

5. Consider the variable energy levels of the students. High energy times could be used for activities requiring physical movement and

Figure 5

SAMPLE "WATER UNIT"

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
WEEK 1	Stream Table Intro - Sequence - Tools - Modifications - Record Keeping	- Observation of Erosion & Desposition - Siphoning Lessons of High Interest!	Choice Time 50% Day Students Free Play Rotated Schedule * Students record ideas for simulations	Collecting Water Containers - Have students mark 100 ml or 1 dl on the side on tape	Look at Properties of Water & Compare With Other Liquids (See Gr 3 "Changes in Matter")
WEEK 2	Snow Study (Examine your Environment "Snow") Temperature of Snow Depths	Temperature Graphs of Freezing - use Sunburst? Temp Courseware for Thermometers Food colored water and Wax Resist Art	Catch Snowflakes on Black Paper and Spray With Lacquer - Sketch Snowflakes	Sharing Stream Table - Words, Observations, Ideas Evaporation and Condensation Investigations - Students Burying Objects in Sand to be Eroded	Stream Table Lesson Bob's Question - where does the water in the river come from? * Used large can with holes in bottom to make rain and start a creek in the table
WEEK 3	Volumes - Displacement of Objects Measure Volumes in l, dl, cl, and ml Use for Decimal Work	Water Color Painting - Students put Paint in Clear Plastic Tubes and Watch Mixing and Put Marbles Through Tube.	Sharing Stream Table - Words, Observations, Ideas Math Solve Volume Problems Using Containers Use Decimals	UNICEF Volunteer Presentation of "Clean Water Around the World" Look at Our Use of Water in Our Community	Filtering Water ~~Distilling Water~~ Not Done - Bunsen Burner X - Coffee Filters ✓ - Mud, Sand ✓ - Salt X
WEEK 4	Filtering Cont Water Purification Big Question in Class * Planned Field Trip	Container Problems e.g. You have a 5 dl Jar and a 4 dl Jar - Measure Out 3 dl of H_2O Students Made Their Own Problems	Stream Table Lesson: Erosion of Sedimentary Rock and Igneous Rock * Bury Slab of Salt from Cattle Lick Under Sand Near Top of Table	Brainstorm Small Group Projects on Water - Making Rain - Making Clouds - Floods Hydro Electric Dams - The Nile River	Start Project Planning - Student Brought Story of Archemides Principle Dramatize the Story - Use Plasticine?
WEEK 5	Field Trip to Water Purification Plant and Winnipeg Aquaduct ~~Bubbles~~	Bubbles Soy Soap, Pizza Pans, Glycerin, Straws, String, Mops and Pails Students Made 3D Cubes and Tetrahedrons & Immersed Them in Soap	Water Wheels Make Water Run with Tubes, Marbles, Tin Foil, Plastic Containers, etc.	Compare Water Use Here With Water Use in a Cree Community in Northern Man	Water Wheels Bridge into Tools Unit Tools Used in Cree Community

frequent decision making. Low energy times could be reserved for receptive involvement in learning, reading, observation of objects, viewing, and listening.

Day Schedules

In each of the following examples of day schedules there is an acknowledgement of the value of longer time spans, the integration of subject areas, and self-direction on the part of students. The day schedules vary in the degree to which they promote these characteristics. A teacher will use a variety of day schedules depending on how the day is broken up with physical education, music, French, etc. A more open schedule is more appropriate when the children have a wide variety of activities and projects to engage in, and when they have been taught how to use their time.

TIMETABLES

EXAMPLE 1

Here is a simple example of doubling up subject time and scheduling a subject on alternate days

DAY 1		DAY 2	
9:00 10:35	Writing Workshop	9:00 - 10:35	Reading Workshop
10:35 - 10:50	RECESS	10:35 - 10:50	RECESS
10:50 - 11:55	Math	10:50 - 11:55	Art
12:00 - 1:00	LUNCH	2:00 - 1:00	LUNCH
1:00 - 1:35	Poetry and French	1:00 - 1:35	Poetry and French
1:35 - 2:35	Social Studies	1:35 - 2:35	Science
2:35 - 2:50	RECESS	2:35 - 2:50	RECESS
2:50 - 3:15	Class Story	2:50 - 3:15	Class Story

This is an easy way to begin using larger blocks of time for work without feeling that some subject areas will be short-changed.

EXAMPLE 2

This schedule is efficient for accomplishing many activities in a day, and yet leaves half the morning free for students to work on individual projects.

	MORNING
9:00-9:40	• Focusing Activity (quick, motivating) • Calendar and Graph • Reading
9:40-10:10	• Spelling Pre-Test (based on spelling series or on words collected from theme work) • Writing • Math
10:10-10:30	RECESS
10:30-11:55	• Project and Theme Work
12:00-1:00	LUNCH
	AFTERNOON
1:00-1:15	• Quiet Reading
1:15-1:45	• Story – Teacher Reading
1:45-2:10	• Music and Physical Education
2:10-2.30	RECESS
2:30-3:15	• Individual Novel Study: extend the literature of each student's choice through a set of activities, research discussions, and questions generated by the students that apply to general categories of the novel
3:15-3:30	• Wrap-Up

EXAMPLE 3

The next schedule is useful for theme work, particularly when done in small groups. If supplies such as paint, cardboard, and glue are needed, before beginning a project, it is unreasonable to limit the time to one hour. Students may need 15 minutes to set up and 15 minutes to clean up.

	MORNING
9:00 9:45	• Sponge Activity • Calendar and Graph • Newspaper Article Report
9:45- 10:35	• Project and Theme Work
10:35-10:50	RECESS
10:50- 11:45	• Continue Project Work
11:45- 12:00	• Classroom Clean-Up
12:00-1:00	LUNCH
	AFTERNOON
1:00- 1:30	• Silent Reading
1:30- 2:00	• French
2:00- 2:15	• Math Facts Game
2:15-2:30	RECESS
2:30- 3:15	• Class Novel and Book Study
3:15- 3:30	• Classroom Clean-Up

The above schedule reflects a class that is given a large amount of responsibility for the clean-up and maintenance of the classroom.

EXAMPLE 4

The next schedule, which only shows a morning, allows for the use of a series of learning centres which can be approached in two ways.

The first way is to have all the students rotate through all the centres at regular intervals throughout the morning. This approach has limitations in that the students have limited choice in what to do at a given moment and limited time to spend at an activity (e.g., only 20 to 30 minutes) and the teacher is not free to take anecdotal notes on children at centres other than the one she or he is directing.

The second way to use the learning centres is to have students choose the centres they would like to work at, with prescribed limits to the number of students at a given centre. With this approach the teacher is free to work with individuals or small groups for part of the time, collect work samples and anecdotal records, and help students make good educational choices for themselves.

The afternoon would accommodate specialist teachers in Music, French, etc., and other subjects not covered in the morning.

EXAMPLE 4

MORNING

9:00-9:30
- Registration and Opening
- Five-Minute Silence (Personal quiet time when students can practice prayer or reflection as taught through their own family tradition.)
- Newspaper Article Reporting (a rotated job for each student)

9:30-10:30
- Rotating Learning Centres OR Choice Time Learning
- Centres

  - Teacher-Directed Centre
  - Math Games
  - Reading
  - Writing
  - Sketching
  - Geometry Materials
  - Classroom Pet Care

  (See Chapter 2 for a more extensive list of possible learning centres.)

10:30-10:45 RECESS

10:45-11:30
- Continuation of Centres

11:30-12:00
- Wrap-up lesson for teacher-directed lesson and sharing of morning experiences

  OR

- Filling in of choice time records and sharing of novel study, response journals, or personal writing

  This is also a time for the class to evaluate the morning in terms of noise level, space and movement, problems and successes.

EXAMPLE 5

Choice time can also have conditions placed upon it. Teachers can instruct students to meet certain requirements for the morning but leave the choice of when to meet these requirements up to the student. This choice teaches self-direction and responsibility. If students have a hard time fulfilling requirements, the teacher can help them make those decisions or even withhold their right to choice should it become a serious concern.

MORNING

9:30 - 11:00 Choice Time Requirements

- Math Drill and Practice
- Novel Study Questions
- Editing of Writing
- Unfinished Folder Work
- Reading and Response Journals

Other Choice Possibilities

- Animal Care
- Individual Project Work
- Fiction Writing
- Small Group Drama
- Structure Building
- Puzzles and Logic Problems
- Reading
- Painting

For a fuller description of choice time, see "The Fruit: The Continuity of Integration," in Chapter 2 of this sourcebook.

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Chapter 8

Space Management: The Environment

People continually receive messages from their environment about how they should act and how they should feel. This is the case not only in the classroom, but elsewhere as well. Consider the messages given and received in the following exercise:

Think about the friends and relatives you visit. Think about a recent situation when you found yourself in another person's living room or kitchen. How did you feel when you walked in? Did you hover on the edge of the sofa? Was there a sofa? Did you perch on a straight-backed chair? Did you accept refreshments without hesitation, and browse through the host's library in the hopes of getting lost in comfort? Was the lighting soft and inviting or was it bright and glaring? Did you remain attentive and interested in the people and things around you for no apparent reason other than that you felt good? Were you flustered about where to sit, or what to say, or how you would know what was expected of you?

This light-hearted exercise is offered to illustrate the covert influence of an environment on people. Certain activities and attitudes are encouraged and others discouraged by one's perception of a given physical space.

The purpose of the following information is to suggest classroom environments that cultivate the activities and attitudes of inquisitiveness, risk taking, choice making, creativity, and problem solving for all students, especially those with special needs.

Numerous attributes of the classroom need to be considered when setting up the physical space. The following are several suggestions for teachers, administrators, and parents to consider

- ***Accessibility*** - Are all classroom fixtures, furniture, materials, and centres accessible to all children?

- ***Whole Group Space*** - Is there a large, attractive, multipurpose area for large-group activities which can also be used for other activities?

- ***Flexible Space*** - Are there multiple-use areas in the classroom in which small groups can work, including children with special needs? Students often work in small groups or on individual tasks as they feel the need. This requires the availability of a variety of table spaces or desk combinations.

- ***Teacher's Resource Area*** - The teacher's desk should not monopolize the best spot in the classroom.

- ***Movement*** - Does the classroom set-up facilitate efficient traffic flow between different areas of the room? Is there room for the use of wheel chairs and crutches? In some areas traffic needs to be slowed down so that students will learn respect the different areas of the room.

- ***Electrical Outlets*** - Plug-ins are needed for science activities, computers, and various kinds of audio- visual equipment.

- ***Permanent Fixtures*** - The permanent fixtures in a classroom may influence the location of particular equipment and centres. However, they should not be allowed to stifle the creation of a child-centred classroom.

- ***Storage*** - Do students have their own storage areas? Where do they put boots, bags, and clothes in relation to work areas? Can they get in and out of the classroom with a minimum of congestion? Are the math, art, science, and language arts materials displayed and stored in visible, accessible places?

- ***Variety*** - Are there comfortable quiet areas in the classroom? Are there messy areas allowing for the use of sand, paint, and water which are easy to clean up? Is the environment pleasing to the eye?

These environmental factors change in importance throughout the year. They are influenced by various factors such as the weather, the teaching content, the number and needs of students in the class, the tightness or openness preferred, and the general observations about the children's response to the classroom atmosphere.

Experimentation with the environment can in itself be a catalyst for ongoing change, adaptation, and learning. As the units of study change throughout the year, there will be a need to modify the room to accommodate different materials, displays, and activities. Consider the following examples

- A drama focus or a theme involving the construction of models may require a large open area.

- An art emphasis or a science activity using water may require extra clean-up materials in the room and may necessitate the movement of desks and tables from the tiled area to the carpeted area usually reserved for group meetings.

- One or more of the centres in the room may become obsolete and the space may need to be allocated for other use. Centres need constant updating, and sometimes, when it becomes obvious that the space could be used better for something else, they need to be changed completely.

- The amount of direct whole-class teaching varies from time to time. This means that the arrangement of desks can vary from being uniformly pointed in one direction to being grouped in "pods" or interspersed throughout the room in a variety of ways.

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Chapter 9

Behaviour Management: Empowering Students

Behaviour management does not mean limiting behaviour. It means empowering students to explore a wider variety of interactions in a positive and productive way.

This sourcebook supports the kind of change that will encourage a variety of learning situations, accompanied by a corresponding variety of behaviours in the classroom. This may include facilitating movement and social interaction or fostering skills in independent and cooperative learning. It is necessary to identify those behaviours that will have to be taught to students and those that will have to be monitored and regulated as a result of changes in the classroom such as

- increased movement and sound throughout the room
- increased student-to-student conversation throughout the day
- increased variety of educational materials (e.g., for art, science, social studies, language arts, mathematics, etc.) being taken from storage areas, used, cleaned, and returned to storage areas by students
- increased number and kinds of specific activities going on in the room at any one time

In general, change will result in increased diversity within the classroom environment. Management of this diversity is an important consideration. **The key to the successful development of a healthy classroom is the evolution of student responsibility for that classroom.** Two mistakes commonly made when a classroom is moving towards a diversified climate are

1. In trying to control the situation on their own, teachers take on all the extra responsibility themselves, thereby becoming exhausted. This obviously is negative on two counts. First, teachers deplete their much-needed energy and second, students are deprived of

making effective choices knowing someone else will take responsibility for them.

2. Teachers jump into a complex situation requiring changes in the management of time, space, behaviour, and materials without being prepared for the students' reactions to the new situation. If students are unaware of the reasons and meaning behind the changes, they are more likely to abuse the increase in choice. In a situation like this the teacher may revert to a more traditional routine and be cautious about attempting any change in the classroom again.

In initiating change, teachers undertake significant and far-reaching action, the purpose of which is to empower the students but which also has the effect of uplifting the teacher. Teachers have the final authority to monitor the overall classroom environment and to provide the strength from which students may draw when in need. The strength and intelligence of the teacher manifest themselves in the skillful transference of responsibility to the students. This is why management issues are important to teachers, administrators, and parents.

Task Participation

Students need experience in working through clear, well-defined tasks in groups before they can begin to make more complex decisions in groups. They will need help dividing jobs. All class members need to be taught to take responsibility for clean-up, but one student could be assigned the task of monitoring the group's success at clean-up and deciding when clean-up is satisfactorily completed.

Jobs are rotated among class members every two to five days depending upon the needs of the situation. Some jobs are straightforward and require little decision making (e.g., mail delivery, chalk-board clean-up, messenger services). Others are more creative, take initiative, and require choices to be made (e.g., plant and animal care, writing shelf and art centre organization, and supply management).

Job charts diminish in importance as the class members begin to take responsibility on their own. When students are concerned about their school environment they should be allowed to choose the kinds of responsibilities they wish to take on. Job charts can detract from feelings of ownership for clean-up and maintenance when students begin to respond to classroom concerns on their own.

Management of Sound and Movement

When children move around the room they must be encouraged to do so with respect for others. When the movement appears to cause distraction in the class this needs to be pointed out to the students and ways of moving more quietly must be shown. Students who continually neglect this responsibility must have their right to certain movement in the class restricted until they can suggest a strategy for changing the situation.

The same principles apply to the use of the voice. When students are too loud they need to be shown specific ways of communicating with each other at lower volumes.

An increase in movement and discussion in the room requires the establishment of class etiquette--ways of being polite when in the

company of others. This will minimize any misunderstandings that could arise in a child-centred, activity-based classroom. Classroom etiquette increases the students' awareness of each other's states of mind. **Students need to be taught to ask this question: How does my movement or sound affect those around me?**

Below are some suggested strategies to follow when introducing an increased level of activity in the classroom. The focus is on empowering students to take responsibility, teaching them to take control of their own situation.

1. One short regular time span of activity should be introduced before moving on to a longer block of time or more than one active period in the day.

2. Activity times or choice times should be preceded by a class conference to review procedures or to discuss a problem with movement or noise. When the class members participate in proposing strategies to solve the concern they will be more likely to monitor themselves.

3. At the end of the activity session the class can evaluate the period by recording on chart paper the healthy social behaviour of a smoothly running activity session. Additions can be made to this chart of healthy behaviour as time goes on. Identifying behaviour over a period of time could be a rotating job for two or four students.

4. Establishing an efficient cue for gaining whole-class attention is essential. **This cue should be non-verbal if the teacher's voice cannot be heard easily above the class noise.** A non-verbal cue could be the sound of a triangle, a clapped rhythm that the class would repeat, or a visual cue such as the lights being shut off briefly.

5. Each centre of student material in the classroom should have its own requirements for use, clean-up, and storage. Ideally,

requirements for each unique situation should be taught directly to the whole class. If this is difficult, small groups should be exposed to the cooperative use, clean-up, and storage of a centre or kind of material.

6. As time progresses and students internalize their responsibilities, longer time periods can be implemented and fewer formal social evaluations of class activity need to take place.

Facilitation of Interaction

The purpose of talking about behaviour management is not to limit behaviour. The purpose is to enable children to explore a wider and more diverse range of social and learning situations where they are working with each other in a rich environment. Teachers must empower children to assume the responsibility of caring for each other and learning from each other within the classroom environment. Early years educators value rich interaction with people in varied situations. The more students interact, share, and cooperate, the greater the levels of success they will experience. When children learn together they create a rich language environment that is real and natural. Real language must, therefore, be valued in the classroom. Rich and diverse social interaction also increases perspective taking which is crucial to all higher level thinking.

As working together is crucial to children's cognitive development, teachers should

1. Teach cooperation and partnership as a way to increase the children's sense of potential and power to succeed and feel good about their work and play. Positive self-esteem is built through a sense of competence and positive feelings towards learning.

2. Teach students how to listen to each other and support each other in their activities. Introduce group activities that focus on listening, sharing information, and sharing group tasks.

3. Help students evaluate the degree to which they, as a group, accomplished cooperative tasks. Together with students define clues to a cooperative group environment such as positive tone of voice, moderated vocal volume, waiting for others to finish, verbal agreement, sharing, avoiding put-downs, etc.

4. Teach students to question each other. This questioning must be motivated by wanting to help members of the group become more effective problem solvers. Teach students how to respond to questions without being threatened. Start with situations where the questions are content-oriented, or of a less personal nature. Proceed towards group situations where the personal opinions of the group members are clarified through group questioning.

5. Teach students to follow directions as a group. Instead of relying on the teacher as the central authority, the group should also take responsibility for answering each other's questions about directions. If a group member asks the teacher a question the teacher should respond only if the student has first presented the question to the group. Students can also use this strategy in solving their own problems.

The most powerful groups in the classroom are informal. Children grow in self-concept and intellect when the environment of the class invites them to interact around ideas, projects, or materials and when

the time and space allow for such interaction. This is why it is important to teach the cooperative skills needed for the group to function with a minimum of obstacles. Most of the ideas in this sourcebook lead toward the development of informal groupings.

There are many less open-ended but important ways of developing student cooperation within the classroom. Several such strategies are outlined below.

1. Have small-group sharing as a regular part of any given lesson. The sharing could be done in pairs or in groups of three or four students. The sharing could be about something they have written, a problem in art or mathematics which they have solved, etc.

2. Teach small groups to brainstorm in situations where the whole class would usually be involved. Have each child individually write a list of ideas before joining a small group to brainstorm. In this way, shy children come to the group with something ready to share.

3. Students can cooperate in writing stories by using a "round robin" technique. Each student writes a sentence for a story, letter, poem, etc., and then passes the writing on to the next person in the group to add a sentence, and so on. The participants must cooperate to keep the tone, voice, and structure of the writing consistent.

4. Any kind of skit, improvization, or visual art display such as a collage or a mural offers excellent opportunities for students to help one another achieve a group goal. Ensure that each child's contribution is equally challenging and important and varies from one group project to the next.

5. Many clearly defined jobs necessary for the smooth operation of a group can be rotated among group members, thereby making the tasks non-threatening. Have students take turns assuming responsibilities such as the following

    - a time keeper who keeps the group aware of its time lines

- a materials manager who monitors whatever supplies the group might need
- a reporter who keeps the teacher updated as to the progress and needs of the group
- a recorder who writes down the group's ideas
- a behaviour monitor who takes responsibility for identifying positive factors that help the group succeed

6. The ''jigsaw'' strategy is characterized by small heterogeneous groupings, individuals within a group being interdependent and each member of the group carrying certain responsibilities. Cooperative social objectives are met at the same time as academic objectives. The following is a brief outline of how teache.s could use the ''jigsaw'' strategy

Jigsaw Strategy

Step One

If a novel is being used as the basis for discussion, divide the class into small heterogeneous groups of four or five members in advance of the activity. After a reading of the novel, ask the students to share their initial responses to the book.

Step Two

Formulate four or five questions (the number of questions matching the number of group members) about the novel based upon the students' previously expressed reactions to, and interest in, the novel. Have each group number off its members from one to four or five with all of the ''ones,'' ''twos,'' etc., from each original group getting together to explore one of the questions allotted to their respective groups. In these ''expert'' groups each member has a responsibility to take part in the discussion and reflection and then report this unique information to the original group.

Step Three

Each student returns to the original group and shares the unique information and opinions formulated in the ''expert'' group. Group members can ask questions and seek clarification so as to reshape ideas and organize a new understanding of the literature under discussion.

Step Four

Each student works with the new information to create a piece of writing, an oral presentation, a skit, etc. This can be done either individually or with the whole group. Once again, each group member relies upon other members of the group for support and unique knowledge.

Step Five

The class is asked to reflect upon the behaviours that led to the smooth operation of their group. These ideas on cooperative actions could be collected on charts to serve as a constant reference point for the class in further small-group work.

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Chapter 10

Resource Management: Community and Parents

Community

Few people would deny the importance of experience in the education process. Unfortunately, being educated in a few rooms of a building built for the ''experience'' of education does not guarantee access to rich and varied experience. Teachers must expand their conceptual boundaries of the classroom to include resources outside the school and the public school system.

Schools are not always the best places for acquiring varied experience; they cannot imitate the real world. The school community is the real context of the classroom. Different aspects of the school community include businesses, careers, buildings, parks, maps, vegetation, issues and concerns, libraries, museums, galleries, diverse cultures, and real problems being solved and needing to be solved. The community is a place where people influence each other and work together in conflict and compromise.

It is this community that is the meaningful environment to be written about, talked about, researched, acted upon, concerned about, protected, changed, and lived in.

In this chapter ''resources'' refer to material resources, people resources, and idea resources. The community around the school is often enthusiastic about getting involved in education when asked.

What follows is an incomplete list of resources to be used from the community outside the school.

1. ***Universities:*** Many university faculties have resources to be lent to classrooms or teachers. They range from stuffed or live animals to large picture and slide files. They often encourage their own students to engage in projects that include public schools. Some of the faculties to consider are: Music, Architecture, Biology, Agriculture, Drama, Geology, etc.

2. ***Museums and Art Galleries:*** Some museums and galleries offer prepared field trips that match the provincial curricula and customized field trips planned together with teachers. They also have prepared and customized sets of materials that can be taken out on loan for specific periods of time.

3. ***Businesses:*** Resources available in the corporate community should not be overlooked. Newspapers, print shops, plant shops, grocery stores, farms, television and radio stations, travel agencies, manufacturing companies, and bakeries are just a few examples of establishments that have been known to provide service to public school classrooms.

4. ***Libraries:*** Library personnel are generallly enthusiastic about anything they can do in the area of promoting children's literature.

5. ***Parks:*** Parks and other free space close to the school should be utilized for activities requiring large space.

6. ***Parents and the Community:*** Members from the community can be surveyed to obtain an overview of the careers and hobbies represented locally. Many people will enthusiastically share their expertise with school children if they are given enough time to make arrangements at their workplace. With teacher assistance, students can design the survey, decide whom to invite into their classroom at different times throughout the year, and write letters to the selected people, making specific requests and arrangements.

The parents of students and other community members close to the school are valuable sources for obtaining idea, material, and people resources which should be explored more fully. The child's parents and home community form the foundation of the child's world, and indeed constitute the child's most familiar world. At the same time, parents are the people most familiar with the child. This is not to be ignored by the school system.

Educators have shown (Trelease, 1989; Wells, 1986) that there is a strong correlation between the level of parental involvement in a child's education and the success the child experiences in the school setting. This is not hard to understand. When the separation between home and school dissolves and parents and teachers communicate regularly in a variety of situations, the attentions of the parent, child, and teacher are heightened toward one another.

With the attainment of an effective home and school partnership, education ceases to be an isolated activity and enters the real life of everyone involved. The adults bond to form a broader resource base and the students, in turn, mirror the commitment and interest of the adults. As parents communicate their needs and values to the teachers and as teachers communicate their vision of education to the parents, a mutually beneficial partnership of dialogue emerges. Teachers are able to teach children whose parents have an ongoing understanding of what is happening in the classroom. Strength is created when all the partners in education are open to understanding the diverse views of the others. Communication leads to significant mutual understanding, leaving no room for superficiality.

Parents in the Classroom

The teaching community is continually changing and adapting to new realities. The parents of students and other members of the community must become partners in this change. Like teachers, parents are experiencing the forces of change in education discussed in the opening pages of this sourcebook.

The process of forming a partnership with parents is one of education and communication. Since the classroom is perceived to be the teacher's space, teachers must invite the parents and community into the classroom and make them feel welcome. The classroom itself must feel inviting. An open, interactive school atmosphere will help to overcome the reticence some parents feel about coming to the school. Adults and children who view themselves as outsiders should be encouraged to join in school activities as they slowly begin to experience the environment of openness.

There are concrete strategies for sending inviting messages to parents. Verbal and written invitations to classroom functions are important. For example, invitations could be given for an ethnic meal organized by the class, a play, an art display, or an afternoon of games at the school or in the local park. The halls outside the classroom should celebrate children's work for the participation of anyone who walks through the halls. This will help make parents feel connected to what is happening in class.

General updates of classroom activities and future plans can be sent home every month or two. (See Appendix B for examples.) These updates, which do not need to be very detailed, can build effective bridges between the classroom and the home. Strong parental involvement in the classroom, although desirable, is not a prerequisite for implementing the ideas in this sourcebook.

Parents differ in the kinds of classroom involvement which they find inviting or with which they feel comfortable. Their involvement can take various forms.

1. ***In-Class Aid***

   Volunteer aides work with materials and resources that need to be either constructed or organized for use by the children. This might include making booklets, organizing art materials, preparing science supplies, or constructing charts and displays. This sort of classroom involvement is the least threatening for parents. It does not require direct contact with the students, but it allows parents to see what is going on in the room and to observe their own children. The work is important as it gives teachers more time to work directly with students.

   As parents become familiar with the patterns of the classroom and the energy of the children, they may be inspired to work directly with students.

2. *Skills Tutor*

Skills tutors work directly with individuals or small groups. Their tasks include providing reinforcement and repetition of previous teaching. They monitor and aid students through spelling exercises, practicing math facts, applying dictionary and library skills, and listening to them read.

A different level of involvement is needed for helping with project organization, story editing, or guiding individuals through problem-solving exercises. Since these activities demand more individual initiative and thought, they require more risk-taking on the part of the volunteer.

There is a greater educational pay-off for the teacher when parents actually work with students. This experience can provide a starting-point for parent-teacher dialogue. When parents work with a student in developing skills, they can more easily participate in discussions about the mechanics of knowledge acquisition as it relates to understanding and meaning.

This is an important stage of parental involvement. If parents are to be advocates for quality education they must have informed experience and knowledge. Parents deserve to know the difference between getting a right answer and understanding the problem. Parents need to see that the acquisition of meaning comes through real experience and not rote repetition.

These are the issues that may develop as a teacher interacts with a parent in a growing partnership. The partnership occurs because there is a commitment to innovation on the part of the teacher. When parents see a teacher looking deeply for evidence of understanding behind their children's actions, they respond by becoming committed to seeing meaning dawn on their children's faces. In this way, they become true partners in the process of education.

3. ***In-Process Volunteer***

Parental involvement changes when a parent becomes familiar with the classroom, the rhythm of the day, and the teacher's intent and expectations. Parents may at this point feel comfortable working with larger groups of students, helping with more creative projects, working through problems along with the students, and conferencing with students about literature and their own writing. This level of involvement enables parents to become sources of observation about the children. Their observations provide data for the improvement of programming and for evaluation of progress.

As in-process volunteers, parents also become strong advocates for what is happening in the class. They develop an awareness of the need to teach understanding and the need for students to make choices and decisions in a society that will increasingly value risk takers and problem solvers

4. ***Special Projects and Special Expertise***

Many parents have careers that keep them from coming into the classroom on a regular basis. Consequently, their involvement differs from that described above, but it is just as valuable.

At various times of the year there may be larger projects with which some parents could get involved on a short-term basis. Parents could help with cooking ethnic meals, accompany the class on field trips, or assist in setting up backdrops for a drama production.

Parents and community members are a rich resource for a school. It is beneficial to gather information from the parents about their areas of interest or knowledge and their willingness to share that expertise with students. If this information is known in advance, then parents can be invited to share their expertise during the study of particular themes to broaden the scope of learning in the class.

5. ***At-Home Involvement***

Many parents cannot come to school during school hours and many others do not wish to share their interests with unfamiliar groups of children. They may, however, wish to volunteer their time and energy at home in order to help the class. Parents who prefer at-home involvement can volunteer to make booklets, type final copies of stories, do final editing, organize picture files, cut out laminated items, search the library for books on the class theme, and work with their own children on developing reading, writing, and thinking skills.

6. *Communicating to the Home*

Parents have the right to be informed about their children. Information should be clear in meaning, broad in content, specific in details, and compassionate in intent.

One way of communicating this information is to send home classroom notes to parents, updating them about the current themes and activities in the class. This can be an opportunity to make requests for resources and to encourage the parents to talk to their children about their school day and their current activities.

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SECTION D

OBSERVATION AND EVALUATION

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SECTION D OBSERVATION AND EVALUATION

Introduction

Gathering and Using the Data

In advocating a diverse, child-centred, and active classroom climate as a vital option for Grades 3 and 4, the responsibility to observe, monitor, and evaluate student progress, which becomes diversified in this process, must also be addressed. This section looks primarily at observation, anecdotal note-taking, the collection of work samples, student-made records, teacher-student conferences, and the formulation of performance tests. Emphasis is placed on how these evaluation strategies lead to adaptations in programming for the individual students in the classroom. The teacher, parents, and student comprise the partnership within which this process occurs.

A teacher can use a number of different evaluation strategies and techniques.

1. Standardized tests can be useful for testing some specific knowledge retention. However, paper and pencil tests rarely evaluate understanding. **Standardized tests are only useful for evaluating general trends among large numbers of students and, therefore, are not relevant to the classroom-based approach advocated in this sourcebook.**

2. Performance tests involving problem-solving activities are valuable as formal tools to evaluate processes and to diagnose the depth of understanding in the learner.

3. The collection of dated work samples provides a rich record of the student's continuum of personal growth over the years. This is often the best means of evaluating a student's long-term growth.

4. Anecdotal note-taking during class time provides ongoing, formative data, as well as being a diagnostic tool for adapting methodology and content to better meet the needs of the students.

Observation and note-taking form the basis of a strong evaluation system.

5. Student-teacher conferences provide forums for teaching self-evaluation. The teacher can observe the process of evaluation developing in the student and nurture critical thinking.

These issues are looked at in the following chapters from the perspective of the different partners in the educational process: the child, the teacher, and the parent.

Chapter 11

The Child: Watching and Remembering

All evaluation should be based upon or supported by classroom observation of students' behaviour. It is important to have a consistent method of collecting data in class and to know what data to watch for in students. Teachers also assess "how" children are learning, what cognitive processes they are using, and what they think and feel about what they are learning.

How To Collect the Data

Everyone in the classroom has a responsibility to communicate with everyone else. This basic assumption underlies data collection in the classroom. It is important to communicate with one another and be aware of each other's confusions and insights. This attitude accommodates the teacher's need to know the students' interests, strengths, weaknesses, and use of time.

It accommodates the students' need to know that they are being supported in attaining a high degree of involvement in their learning. It accommodates the parents' need to know not only what is happening in the classroom in general, but also the intimate details of how their children are developing. It allows the program and curriculum to be intelligently adapted to classroom needs and interests as well as to individual needs and interests. In this light, data collection becomes the responsibility of everyone within the educational community.

Student-Made Records

Students should help maintain a central file to which they and the teacher have access. This file should hold dated work samples and student-made records, data that can be collected by the students themselves. Students should be taught to take responsibility for certain kinds of record keeping.

During those times when students choose their own activities or engage in centre activities, there will be much more going on than one

person can possibly oversee in any kind of detail. Therefore, students should be taught to use simple recording forms for the different activities indicating to the teacher and themselves

- the kind of activity with which they were involved
- the amount of time spent at the activity
- what was learned at the activity
- who else was involved in the activity
- what was problematic about the activity

Each activity centre will need its own unique form for recording student behaviour.

1. Some activities, for example, art or writing, will automatically provide a record of the work done. Students should be required to date the work and to file it in a current work file, writing folder, or art folder.

   Math games with attribute blocks of different shapes and colours or science classification games with natural materials might not normally require any paper record. If the activity requires students to work with Caroll and Venn Diagrams, multiple copies of those diagrams should be available for students to record the classifications they make by labeling each circle and adding either stamps or simple pictures inside each section of the diagrams.

2. In some instances students need help keeping track of the **kinds** of choices they make. In such cases recording slips could be made available for each situation or centre activity requiring choice (e.g., a Chess or Go game, practice with the use of a microscope, a take-apart centre, or a drama centre). Those using the centre would be required to fill out a slip, identifying when they were there, for how long, and with whom, and making a comment on what they liked about or learned by doing a specific activity.

   This type of record informs the teacher how often an individual student chooses or does not choose certain activities. These records

will also help the students become intelligent partners in adapting the program and curriculum to their needs. Individual records made by the students could be put into individual work folders or into a finished work file maintained by the teacher.

3. If everyone in the class is expected to go through a prescribed number of centres or activities within a certain period of time, a morning or a week, the teacher should either place a class list at each centre to be checked off by students as they use it, or post one class list of all the possible choices on a big chart to be filled out by the students. This is a good reminder for the students that there are numerous choices to be made and that making a wide number and variety of choices is part of their responsibility.

Teacher-Made Records About the Child

Observation and evaluation are ongoing tasks for the teacher. The majority of the day is spent with students actively involved in some form of learning, whether it is reading silently, researching a project on "Building a House," or baking bread. In this process, the teacher becomes sensitive to information that will add to the knowledge and insight of the students in the class, information that influences the future direction of programming for the classroom.

The practicality of this role should be considered. It is probably best to carry a recording device such as a clipboard around in the classroom at certain times of the day or week. The teacher can prepare daily class sheets with small squares on each page for each individual student, which could be entered into a binder at the end of the day. The most important information could be transferred to individual files or file cards for each student. If rewriting is too time consuming, the little squares could be cut out and glued into other files.

Small notepads which can be slipped into a pocket are also good means of collecting data. A 5-cm x 8 cm pad is large enough to write sketchy notes. Each sheet could be reserved for a single observation. The sheets could then be torn off and placed in a ring binder with a section for each student. Stick-on type of notepads can simplify the process even more.

Some teachers carry around a small binder containing all the files. This time-saving technique eliminates the transfer of data from the place it is recorded to the place it is stored and referred to for evaluation, reporting, and diagnosis. The same procedure can be used with index cards where the cards are written on and directly replaced in a file box.

Student-teacher conferences are direct one-on-one encounters which provide opportunities to record observations about a student. These encounters can be initiated by either the student or the teacher, and can be ongoing, informal occasions for focusing on a student's writing or reading. A record of a conference can be entered on index cards, on prepared sheets, or in files maintained by the teacher or in the student's writing or reading folder.

Conferences could also cover a longer time period and be more general in nature. This is an excellent way to encourage students to reflect upon their own decisions and actions and to experience their own critical intelligence.

What To Look for in the Child

In an open, student-centred classroom there are many incidental opportunities to teach directly something of particular relevance to a child or a small group of children. These teachable moments should be recorded. They are legitimate and powerful situations that must be acknowledged for the teacher's own record and for the sake of helping the child understand that something valuable has happened. From these records parents can learn when, where, and in what context their children are being taught.

An active environment can generate a complex mix of processes that are not always planned by the teacher, in either very directed or open-ended lessons. Anecdotal recording heightens the teacher's perceptions of the covert learning that sometimes occurs by directing attention to

- unsuspected phrases of speech that reveal attitudes, interests, or the presence or absence of information

- the social dynamic within a small group that speaks of the self-organizational skills of the students
- facial expression, tone of voice, and body language
- the minute details of how a student sequences and uses math materials, art materials, measuring tools, books, paper, etc.

In the course of interactions with students, a teacher can take notes on such things as

- the patterns and uses of oral language
- construction skills
- the use of math manipulatives
- group interactions
- physical and emotional well-being
- independence
- energy levels throughout the day
- ability to infer, predict, control variables, etc.
- reading strategies used/needed
- revision and editing abilities
- values and attitudes
- sequencing skills
- language that shows inference and prediction
- memory
- perspective-taking skills
- learning preferences
- self-evaluation abilities

In discovering the broad parameters of children as thinkers and learners, teachers are better able to provide appropriate learning situations for the students.

It is important that teachers attempt to be factual in their note-taking. Their feelings about what is observed and their interpretations of the observations should be kept separate from the act of recording actual behaviour.

The skills of observation and anecdotal note-taking are needed in a climate that celebrates the diversity of learning. Ideally, the fruit of observation is the convergence of the goals projected by the teacher and the goals reached by the students. As a result of such observation, activities and emphases planned by the teacher are modified to reflect the students' strengths, and the parents' observations. These become part of the information that enables the curriculum to be relevant to the students' needs and interests. The students' agendas are drawn forward within the context of the teacher's curricula, methodology, and respect for children. In this way, the richness of the classroom can be harvested for the benefit of the child, parent, and teacher.

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Chapter 12

The Teacher: What Do You Do With What Is Observed?

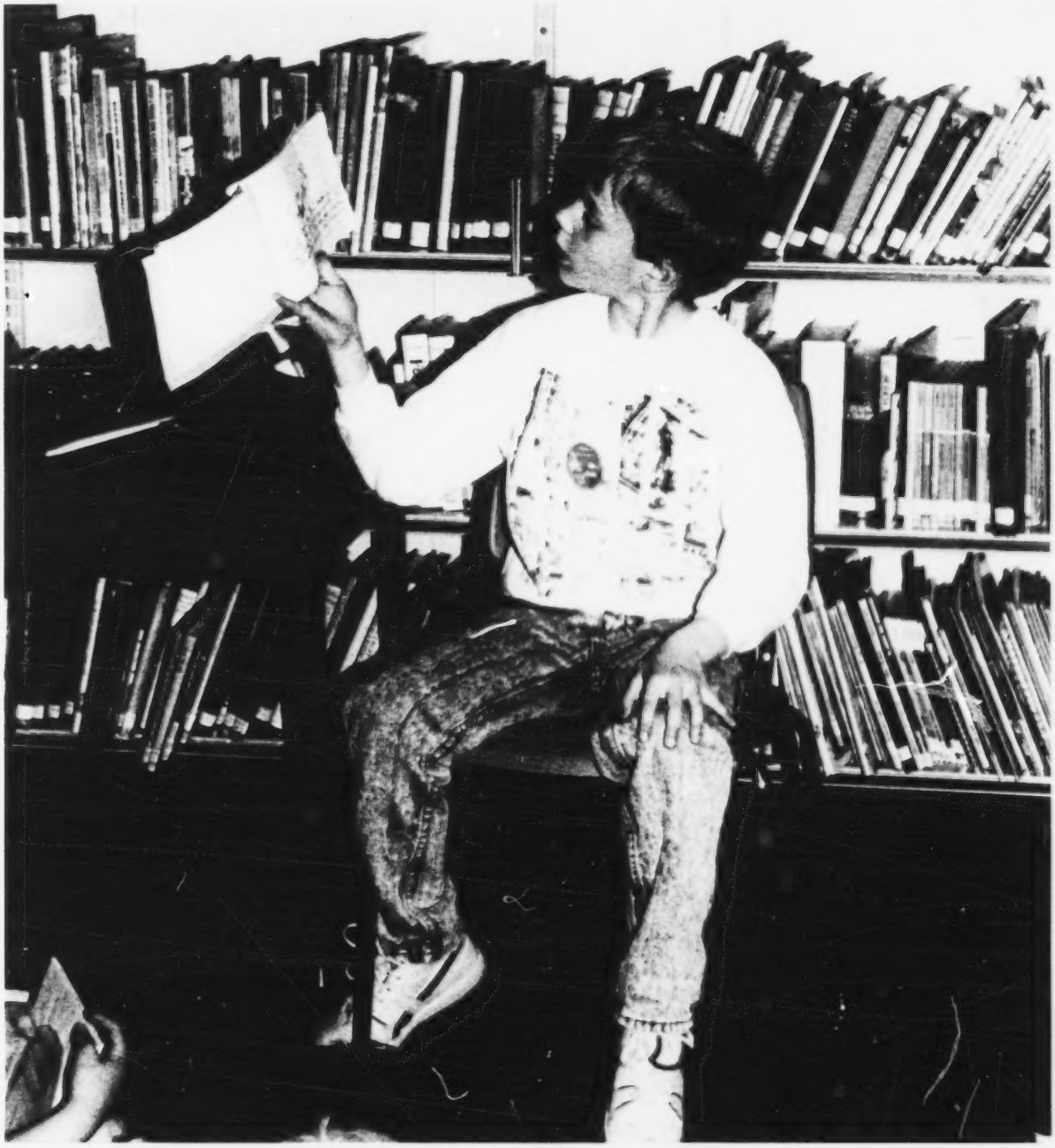
Formative Evaluation

Once information on a child has been collected, it must be processed. Anecdotal notes must be reviewed and undergo analysis. Dated work samples gathered over a period of time must be compared to each other.

In processing information about a child, a teacher needs to address the following questions

- Is this information significant for understanding and helping the child?
- What sort of understanding by the child is behind what I observed?
- Does the information I have collected represent the kind of growth I might expect to see within this period of time? (See Chapter 3 for a discussion on developmental levels.)
- How does this expected growth compare with my anecdotal notes?
- Is this child struggling because she or he is developmentally young or because of other factors influencing her or his development?
- What factors indicated in my notes might add context to these work samples?
- Does this child or this class have strengths and interests that I can work with more skillfully in light of the data I have gathered?
- Have I considered the information I received from the child's parents?

These questions are answered through the teacher's own understanding of child development, an understanding gained from a familiarity with basic developmental theory and ripened through experience with children. A teacher's understanding of child development is also furthered through asking and reflecting upon questions such as the above in terms of everything that is known about the child. The processes of asking questions, gaining an understanding of current educational thinking, and acquiring the experience with children come together in the mind of the teacher.



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With reflection, the essence of the learner becomes clearer, and patterns of learning begin to emerge. This is the process of synthesis. A picture of the child's unique learning styles begins to form in the teacher's mind. Anomalies and divergencies from certain familiar patterns become highlighted through the ever-expanding picture of the child. They often mark new insights, growth, or signs of risk taking. They might also indicate difficulties with certain material or influences on the child from outside the learning situation.

This use of observational material is called "formative evaluation." In this process, a broader and deeper picture of the learner forms in the teacher's mind, enabling the teacher to modify content, method, space, time, sequence, and groupings to accommodate the student.

Some examples might be instructive

A group of Grade 4 students is learning to multiply 2-digit factors by 2-digit factors. They are using Base Ten blocks consisting of units for ones, longs for tens, flats for hundreds, and blocks for thousands. The students are working on the following question

$$\begin{array}{r} 46 \\ \times\ 24 \end{array}$$

The students have been taught various ways of using the distributive property so that they can solve this problem by breaking it up into parts

$$\begin{array}{r} 46 \\ \times\ 4 \end{array} \qquad \begin{array}{r} 46 \\ \times 10 \end{array} \qquad \begin{array}{r} 46 \\ \times 10 \end{array}$$

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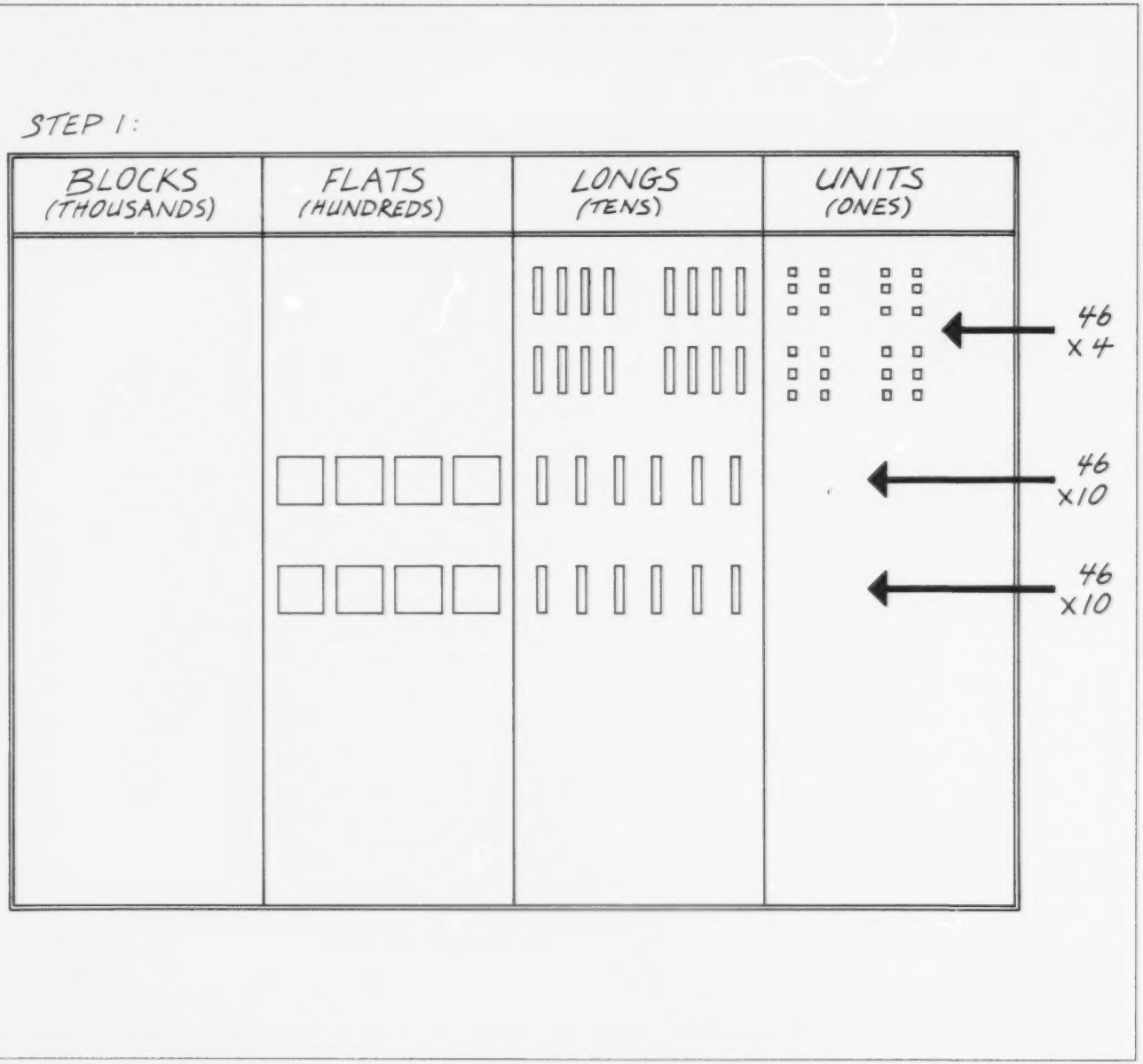
Figure 6


STEP 1:
BLOCKS (THOUSANDS)
FLATS (HUNDREDS)
LONGS (TENS)
UNITS (ONES)
46 x 4
46 x10
46 x10

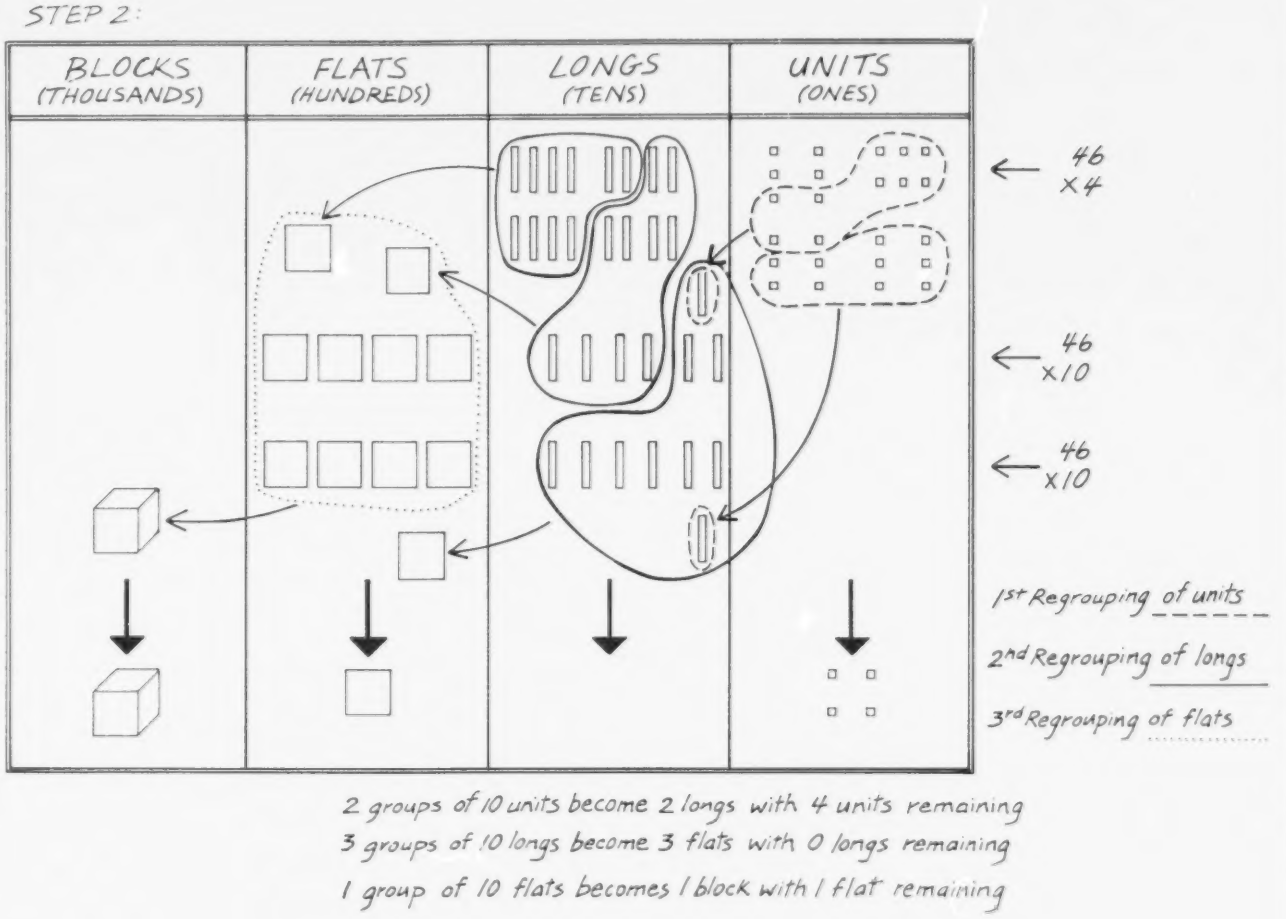

STEP 2:
BLOCKS (THOUSANDS)
FLATS (HUNDREDS)
LONGS (TENS)
UNITS (ONES)
46 x4
46 x10
46 x10
1st Regrouping of units
2nd Regrouping of longs
3rd Regrouping of flats
2 groups of 10 units become 2 longs with 4 units remaining
3 groups of 10 longs become 3 flats with 0 longs remaining
1 group of 10 flats becomes 1 block with 1 flat remaining

Figure 7

Student #1

'Milo does not have the blocks arranged in order and is confusing basic sense of place value for each number. ***He needs to have more exposure to building numbers, simple regrouping with manipulatives, and associating the actions with the blocks to the use of symbols.***

Student #2

'Yvonne feels that she can do the assignment without the blocks and has shown the teacher that she knows how to ''set up'' the question with blocks, thereby demonstrating the use of the distributive property. She can speak about any part of the symbolic question in terms of blocks and how they would function and so ***she should be allowed to practice some more complex word problems involving the multiplication of 2-digit numbers by 2-digit numbers. She should be encouraged to solve real-life problem situations with real applications.***

Student #3

'John is getting the answers but he is actually making 46 in blocks 24 individual times. He needs to see groups of ten 46's in terms of 4 flats, 6 longs, and 0 units. He hasn't internalized the x 10 algorithm. He may not have internalized the sense of conservation of numbers when regrouping occurs and is relying on what he knows for sure. ***He should focus on more concrete regrouping with a variety of materials and be allowed to see the symbolic patterns when multiplying by 10.***

Student #4

'Patricia seems to be doing everything right but is not getting the right answer. She knows how to construct the problem but has not been adding up the parts correctly. She has been careless about long pieces she has carried to the tens column and then forgotten to include in her

MILO:

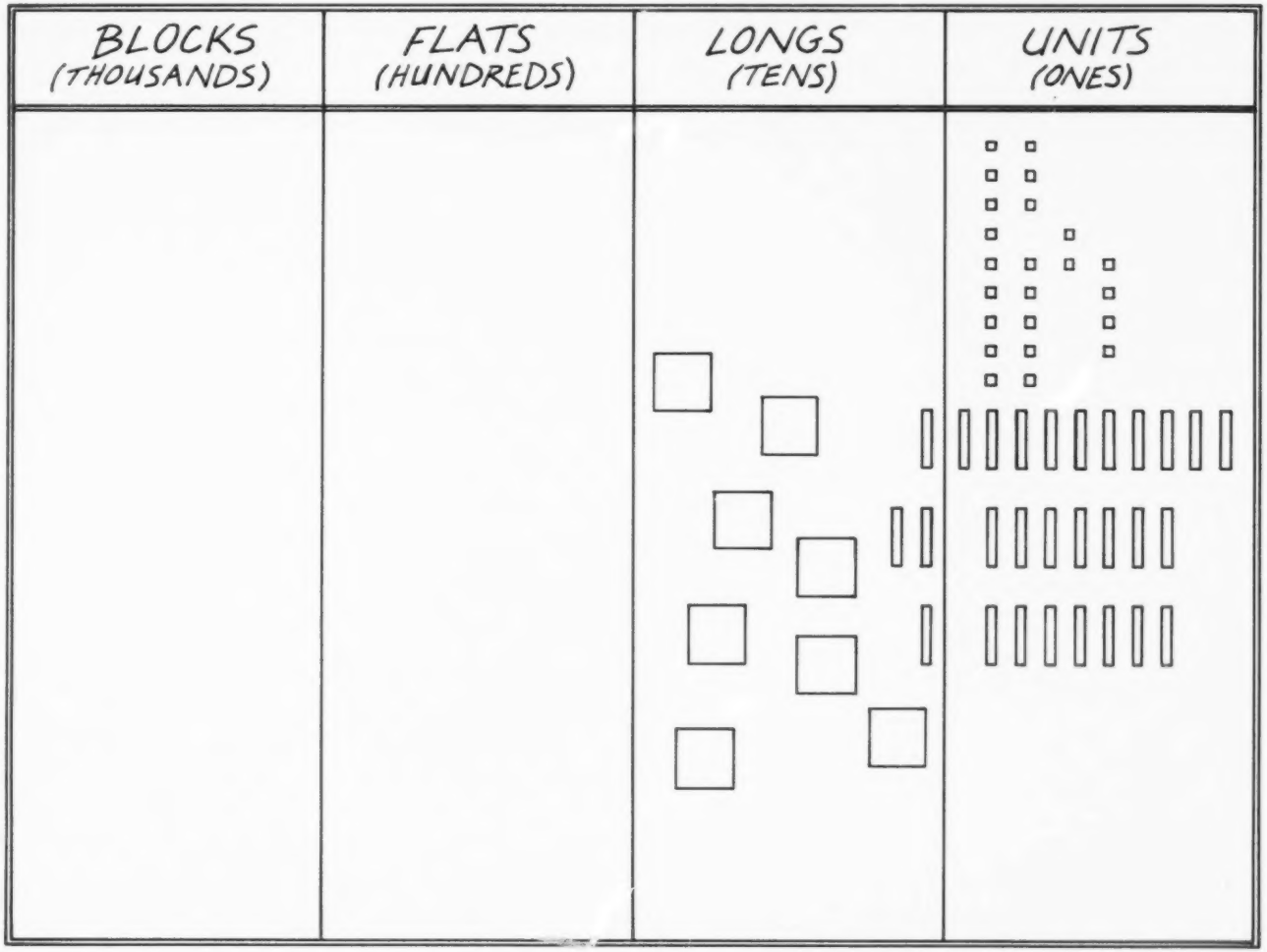


Figure 8

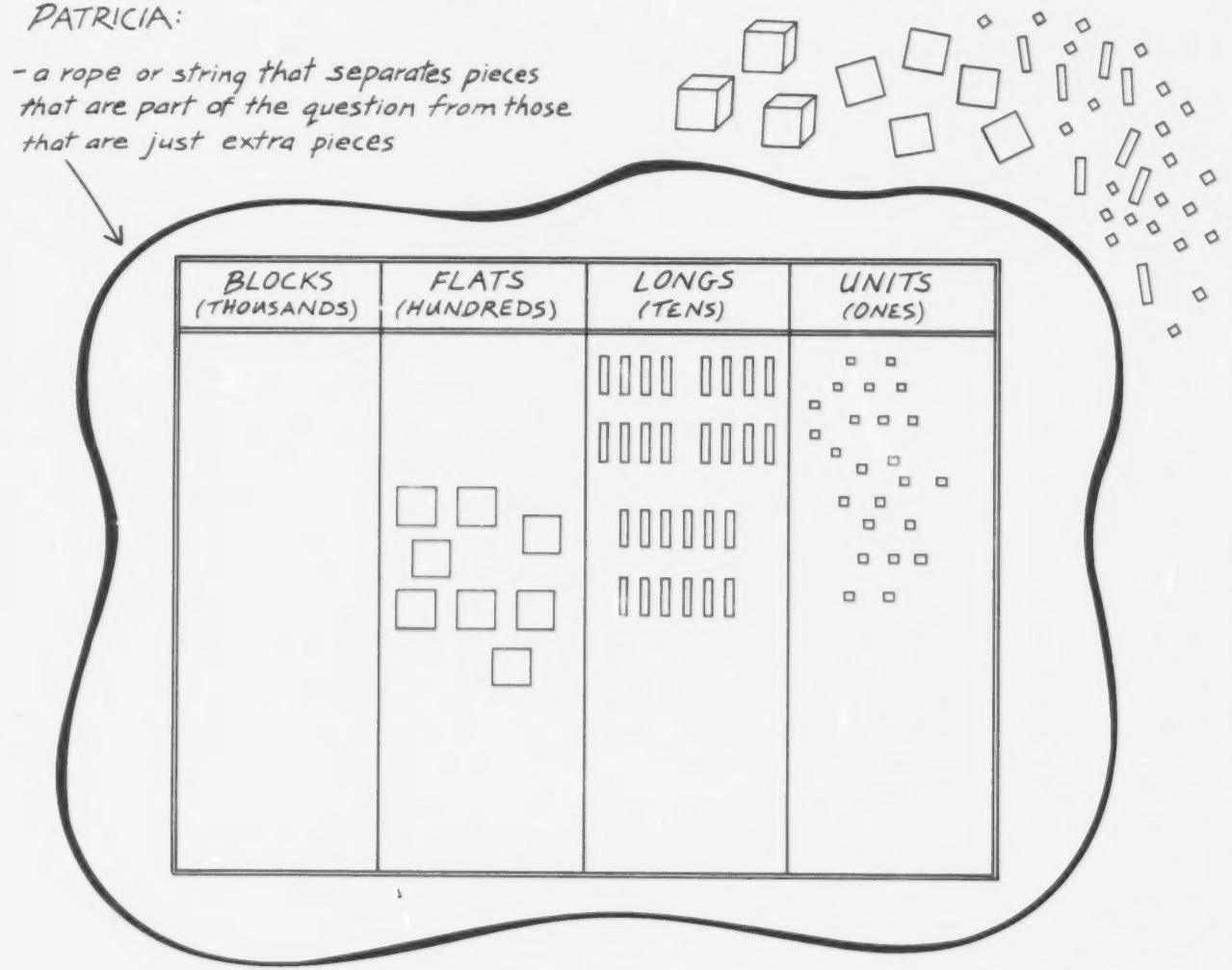

PATRICIA:
- a rope or string that separates pieces that are part of the question from those that are just extra pieces
BLOCKS (THOUSANDS)
FLATS (HUNDREDS)
LONGS (TENS)
UNITS (ONES)

Figure 9

answer. ***She needs to work with all her blocks within a large loop of string and be prevented from removing any of her blocks from the loop until all blocks have been reckoned in the answer.***

There are many other examples of how students could approach this math question. The four described above are meant only to show the diversity of information readily available through activity, the formative evaluation of the student based on observation, and the modification of materials, sequence, content, and method that follows from the observation.

Here is another anecdotal observation that may be helpful. It is important to remember that the teacher has already gathered a great deal of information about this child and has had many experiences with the child that precedes the observation.

'A group of Grades 3 and 4 students is writing a play about a group of children who want to help stop pollution. In order to help the group achieve a focus, the teacher has the students work out their own opinions and commitment to reducing pollution. The children are asked to rate the extent of their agreement or disagreement to various statements about the environment on a scale from 1 to 10, with 1 indicating strong agreement and 10 indicating strong disagreement.

For example, the teacher states, "Driving the car everywhere and using big powerboats and snowmobiles is harmful."

Dawn, an eight-year-old Grade 3 student, rates this statement as a 10. She disagrees strongly. She listens to the other children who have rated the statement between 1 and 6 speak about the difference between what they want for the environment and how they are attached to the comfort of being driven to places instead of walking. There is a common current of conflict within most students about their wants and needs.

Dawn states enthusiastically, "Well, I like to go skiing and that's why I gave the statement a 10. And also because when we go to the lake I

really like to ski behind our motor boat. I don't know why but I really like that." When questioned by her peers about her motives and her understanding of their perspective she shrugs her shoulders and says happily, "Yeah, but I still want to go skiing!"

This statement, within the context of a broader experience of Dawn as an individual, speaks volumes about Dawn. She is developmentally young. She has previously shown, as in this example, a high degree of egocentricity and a low ability to take the perspective of others or to respond fully to the dilemma with which the other students are grappling. Dawn has not fully developed the social perspective shown by her peers and therefore should not be expected to respond to the discussion in the same fashion as the others. ***The teacher needs to continue providing exposure to more mature ideas although Dawn may have less interest in the kinds of writing, ideas, and literature that her classmates enjoy.***

The point of these examples is to show that a deep understanding of children cannot be achieved unless close attention is given to the speech, movement, moods, and faces of the children. Every good teacher does this. Teachers know their students far better than any outside educator can because they have taken in so much contextual information about them.

The role of the teacher needs to change in order to bring this context into the realm of evaluation. Observations about students need to be part of the teacher's report to parents and administrators. These observations need to be documented to be legitimized. They are valid and potent indicators of where children are in terms of their learning.

Summative Evaluation

Summative evaluation is the assessment of a student's ability to move into another learning cycle. Summative evaluation will primarily be a summation of anecdotal records, performance tests, work samples, teacher-made tests, and checklists enabling the teacher to assess the level of a child's development.

Performance tests are the best way of directly assessing specific process abilities and knowledge application in students. Performance tests are situations where a student is given a problem such as

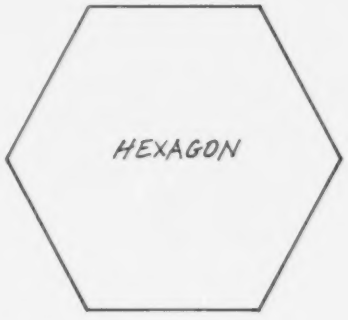
- ***Science:*** Predict and then measure which of two differently-shaped glass holds the most water using the graduated cylinders supplied.
- ***Mathematics***: If one hexagon is equal to 1 then solve the problem 2/3 + 1/2.
- ***Writing:*** Write a description of one of the articles on this table. Use prose, poetry, the perspective of a particular character, or any other means to describe the chosen object.

The teacher observes students in the process of attempting to solve the problems. The teacher's role is not only to see if students get right answers, but also to observe how they arrive at their answers and how and whether they can justify them. Performance tests allow the teacher to observe the thinking process in a formal setting. They put students "on the spot" and thus impose a pressure element that influences what is observed. This formal setting broadens the students' experience. Performance tests reveal more than the surface features of knowledge and expose the conceptual processes in much the same way as anecdotal observations, except in a more intentional formal situation. For example, the mathematics problem may be solved by using pattern blocks. See Figure 10 next page.

The logic behind performance testing is simple. To determine whether students can read, **listen to them read!** To determine how well they can classify, **watch them classify!** The main difference between performance testing and other testing is that in the former **the teacher must observe students performing the test.**

Summarizing Anecdotal Notes

Teachers need to practice writing about their students. This is the most important method of summing up the term of work in which a child has engaged. Writing summative evaluations requires careful consideration of the audience. For example, writing for a student will require different vocabulary than writing for an adult. The evaluation

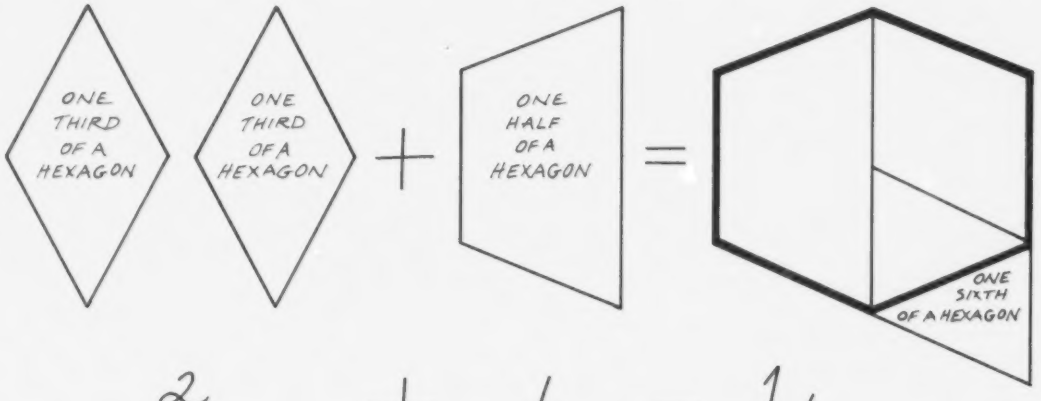


$= 1$

Solve this problem using pattern blocks:

$$\frac{2}{3} + \frac{1}{2} =$$

Solution:



$$\frac{2}{3} + \frac{1}{2} = 1\frac{1}{6}$$

Figure 10

should not contain any comparative references to other children or any statements that would lessen the student's self-concept. An evaluation written for the parents can deal openly with specific concerns in which they can play a part.

At various times during a term or at the end of the term, teachers need to survey the collected data in terms of work samples, student-made records, anecdotal observations, and teacher-made tests. Then the teachers need to synthesize their own understanding of each individual in terms of patterns, evolutions, strengths, weaknesses, and strategies for future direction.

The following summative evaluation was written for parents who have some experience of their child's classroom. They are becoming familiar with the program and how their daughter worked within the program. Parents who have not been exposed to the language of education or who have not had many conversations with the teacher about the program would require a different writing style. The message might be the same, but the language would be simplified.

Paula

'Paula is showing increasing self-confidence in the classroom as we work on developing more understanding of the relative expectations put upon older and younger students in the class.

I feel responsible to maintain high expectations of Paula's use of time and we have been working on this concern. Not all of her older classmates are good examples in this regard, and there is some tension between her need to cultivate friends and my desire for her to cultivate attentiveness and exertion in her work. This is further complicated by class work that she finds difficult or uninteresting. A good example of this was our last class novel, the content of which was too global for her perspective. She is not ready for a high degree of involvement with ''issues.''

Paula has "published" two books and has written a number of stories or portions of stories since November. She has researched and written one piece on "Tap Dancing" as an example of expository writing. She is becoming very conscientious about editing but needs to spend more time elaborating or revising her stories.

Art work has occupied a significant portion of the school day since January. Paula has shown a good understanding of line and texture and good mastery of print-making techniques. She worked particularly well during our print unit and our unit on Japanese art. These units required a higher degree of discipline than is usually found in our art activities and at times Paula was able to sustain her energy for up to an hour.

In mathematics, the class has been working on multiplication, measurement, and ratio. Paula is clearly a concrete learner who should not be pushed into too much pencil and paper work at this point. She does not like working with symbols unless she understands what they mean. The use of blocks makes her work seem laborious and slow but her conceptual understanding is very good. I have urged her to continue memorizing basic facts. I hope she will soon recognize how helpful it can be to have the ability to recall information rather than continually being dependent on blocks.

Paula reads very well. Her choice of books focuses on realistic fiction about girls her own age. Her favourite authors are Lois Lowry and Betsy Byars. Paula's entries in her response journal are often limited to descriptions of events. I have been encouraging her to express her own opinions and thoughts about what she has read. This is causing her some stress at the moment. With your assistance, I feel we could help her to feel more comfortable about expressing her own ideas and taking on new challenges.

I am very happy with Paula's progress and her increasing self-confidence.

We will plan together with Paula at our meeting next week to set priorities and directions for the next term. I look forward to your thoughts and ideas.

Administrators and parents gain a more comprehensive impression of a child's current situation through a writen evaluation than from checklists, assigned grades such as ''As'' and ''Bs'' or other less involved evaluation formats. Summative evaluation such as the above builds partnerships with parents and principals.

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Chapter 13

Partners in Programming: Sharing Information

Parents know their own children in a way that no one else can and, therefore, are able to offer a unique perspective on each individual. They can supply the teacher with more information about a student than the teacher will ever collect. They will be able to help confirm or question interpretations about a student's actions and generally clarify information about the student. With the help of anecdotal notes, work samples, and student records, the teacher can convey to the parents a genuine commitment towards understanding their children and guiding them in their education.

Teachers can invite parents to take part in collecting this information and thus become an integral part of programming for their own children. **The parent-teacher-child partnership is the main context within which evaluation takes place.** These three players have the most to gain or lose from the evaluation process. If evaluation is carried out by the teacher with the aim of collecting as much rich and varied information as possible from the children and their parents, then parents become powerful advocates for what happens in the classroom.

Reporting

In many school divisions, schools are required to use a standardized report card, but in some divisions each school is expected to design its own report card. Teachers may or may not always have direct involvement in the design of the report card they use for their students but they should avail themselves of any opportunity to match reporting procedures with the philosophy of eary years education. The formats for report cards vary widely, ranging from the use of grades (e.g., "A" and "B") or a rating of "Good" and "Satisfactory" on a long list of specific objectives, to the use of a few general categories with plenty of space for anecdotal reporting.

Teachers must use the prescribed forms as a basic minimum for reporting to parents. They can, however, assess the effectiveness of the

report card they use and supplement it with their own system if they feel the parents would be better served through a more relevant format. It is helpful for teachers to think of themselves as parents and consider the kind of communication they would like to receive about their own children. What follows are some suggestions for how reporting can reflect the parent-teacher-child partnership.

Additions to the Report Card

- Write to the parents about their child. Tell them about their child's relationships with other children and adults. Tell them about their child's interests and strengths. Use examples when possible. Ask them for advice. Explore any difficulties encountered in meeting the child's needs or difficulties their child might be experiencing.

- Include a child's self-report. Preparing a self-report is a valuable process for students to go through. It empowers them and leads them to critical thinking.

- Include a curriculum overview of the processes and methodologies that are characteristic of the program. Take time to explain cooperative group learning, activity, choice, and whole language so that parents will have questions when they come to the interview.

- Write an outline of the term's themes, projects, and activities. (See Appendix for examples of student self-evaluations.)

Parent-Child-Teacher Conferences

Parent-child-teacher conferences include more than a discussion of the report card. This kind of conference requires preparation on the part of both the teacher and the child, and each should play a role during the conference. There should also be a follow-up to the conference. Below are some suggestions for planning a parent-child-teacher conference.

- Students prepare a portfolio of work samples they would like to show their parents.

- The class can make a videotape during the two weeks prior to the conference date. The tape can be played outside the room for parents and students to watch when they are not participating in the conference.

- The teacher reviews the student-prepared report card with the student prior to the conference so that the student is informed and can express opinions at the conference without being put on the spot.

- An invitation is sent home to the parents encouraging them to participate in the conference. If the parents have been in the classroom previously they will know that their observations are important to their child's program.

- During the conference children take their parents on a tour of the classroom showing them the displays, art work, centres, areas of interest, etc.

- Children show parents their work samples and compare their self-report with the report of the teacher. If students are only taking part in a portion of the conference, this can be their participation.

- Learning goals are set with all three partners near the end of the conference. Each partner should know what his/her specific responsibilities are.

- After the conference all three partners can fill out evaluation forms.

- The teacher reflects on the conference and considers the new action plan for the student based on the results of the conference which has punctuated a term of ongoing formative evaluation on the part of parents, children, and teachers.

Ongoing Reporting

Communication must take place on a wider scale than just formal reporting periods. Ongoing mechanisms for relating between home and school, such as thoe outlined below, will make formal reporting periods celebrations of what has been going on throughout the term.

- Phone parents about their children. Phone about positive things as well as about concerns. Choose one child every day or two and take ten minutes to phone his/her parents after school to let them know on a casual basis how things are going. Share insights about the child.

- Create photograph albums or vidoes of theme work or project work. Have the albums or videos circulate among the families so that each student can explain what has occurred in class.

- Produce a regular classroom newsletter whereby writing can be shared with parents and where events are publicized for parents.

- Make the best possible use of informal conversations with parents. Such encounters build rapport and can be very informative.

If this sort of ongoing reporting takes place frequently, then a fifteen-minute parent-teacher interview two or three times a year becomes a pleasurable and potentially intimate exchange of thoughts about a child.

Parents As Partners in Observation and Evaluation

Outlined below are some further strategies for encouraging a high level of parental partnership in the observation and evaluation of students.

- Arrange classroom visitations for parents to come and observe their children. When they come, provide them with observation sheets to help them focus on the variety of activities in which their child is engaged. File the observation sheets and use them in the same way that teacher or child observations are used.

- Create home-school log books that parents and teachers can use to communicate with one another on a regular basis

- Hold parent workshops on the concept of whole language or hands-on that parents can become informed partners in their child's education

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SECTION E

FINAL THOUGHTS

SECTION E

FINAL THOUGHTS

Introduction

The Voices of Teachers

The environment I create in my classroom must reflect my personality as much as it reflects the personality of my students. I, too, am an integral part of the class, but not the most important part.

It's sometimes hard to realize how I've changed but I have, all the same. I used to stand in front of the class and lecture with my notes in hand. I would make class notes to be copied into the student notebooks. I was tired and they were bored. I was tired because I had to stay up all night memorizing all the information that was to be the content of their learning; they were bored because they had no active part to play.

Well, I'm still tired, but now it's because I'm constantly moving from group to group, from child to child. I'm learning to watch students in a different way. I'm watching them read, build, organize, research, express. I'm tired from the excitement of a day with students enjoying their work. I'm tired, but it is good.

Teachers who have begun the evolution towards becoming facilitators in the class, nurturing student choice in classroom activities, and bringing rich and diverse experience to the classroom, have rich and diverse experiences themselves. People grow and change at different rates and they vary in the amount of time and energy they are able to invest in professional development. Each teaching situation provides unique supports and obstacles to the vision put forth in this sourcebook.

What is common to all teachers is the energy required and the energy created in the evolution of progressive education. Teachers become more than impartial personalities. Their health, attitudes, and interests are integrated with the education of the students. The effort they put into developing relationships becomes the basis for action. These are

all qualities of a profession that demands diverse styles of intelligence, creativity, logic, organization, and abilities to make long-term decisions and on-the-spot decisions hundreds of times each day.

The final section of this sourcebook is devoted to affirming these qualities of the teaching profession. It addresses the questions of how these qualities can be supported and developed, and who can be called upon for support.

Chapter 14

The Role of the Teacher

Society has traditionally afforded great respect to the teaching profession. In the past, the priest, doctor, and teacher were viewed as the pillars of the community who could be called upon as sources of knowledge and leadership.

Although the authority of teachers has been tempered through an increased partnership with parents and the community, their present role is still much the same, carrying a weighty responsibility. The pride teachers take in their work also remains unchanged. Changes in society's attitudes and values as well as new discoveries and information have greatly influenced education. The things that have been forced to change most significantly are the delivery of knowledge and the nature of leadership.

The teaching profession is becoming incresingly complex, simultaneously affecting and reflecting the needs and directions of the people it serves. The needs of children in Grades 3 and 4 are in a state of change as they make the transition between pre-operational and concrete operational thinking.

The Teacher As Guide

Teachers cannot limit themselves to a definable set of knowledge to be transmitted to their students. This is impractical. Within a few years students will find much of the knowledge of questionable use and relevance and they will be in need of more up-to-date information. Students will need to know how to find information and how to use the information – how to look at large amounts of data for patterns and systems with which they can work. This does not mean that teachers have nothing to say to the students. It means that what they say had best unlock the initiative and self-sufficiency of students rather than keeping them dependent upon the teacher for decisions and opinions.

This role is like that of a guide working behind travellers while they negotiate unfamiliar and foggy terrain en route towards a chosen goal.

It is impractical for the guide to tell the travellers the location of every rock, every crack in the ground, every pocket of quicksand, or every snake lurking in the tree branches. The guide wants the travellers to absorb information from the environment, and to analyze, infer, predict, and evaluate the data. In this way, exploration and inquiry become internalized for the traveller.

The guide is tough, demanding from the travellers a high degree of involvement in the journey. The travellers must look, listen, and discriminate with increasing skill. The guide may show the travellers how close to danger they have come and may even allow them to trip once or twice should they slacken their attentiveness and awareness. The guide does not allow the travellers to perish on the cliffs or in the quicksand; however, the guide does require them to make choices in direction and speed.

When the travellers arrive at a cool forest, plentiful with food and shade, they will understand its preciousness. If the guide had revealed all the details of the path, the travellers would not have learned how to pay attention to their surroundings. They would have gained little appreciation for the path or the goal. Instead, they would only be able to go back and forth on the same path again and again and would remain completely dependent upon the guide for further travel.

By being guided from the side or from behind, the travellers gain mastery over unfamiliar territory. Teachers, too, must teach students to negotiate unfamiliar territory. This will not happen if teachers do not release the reins of power and allow students the full experience of the path.

The Teacher As Learner

In the classroom I see myself as a learner. I am there to learn from the children about their needs and wants. I place a lot of importance on "kid-watching."

Both the children and I need time to reflect on what we know, what we need to work on, and what challenges are yet to be discovered.

Teachers must model the learning process. They teach students how to listen and show curiosity by listening to them. They empower the students by using their insights to enrich the classroom. Children benefit from seeing the teacher struggle for understanding and seeing realization dawn on the teacher's face.

In the interest of providing a model, the teacher should be involved in the same activities as the students for at least part of the time: when the students read, the teacher reads; when the students write, the teacher writes. If the teacher allows the students to see him or her work at planning classroom activities, the students will gladly work at helping with the plans. It is the teacher's interest that teaches the students to have interest. The teacher is the nerve centre and catalyst for the students' motivation.

The Teacher As Children's Research Coordinator

Since students are not going to be given all their knowledge, they will need to be taught how and where to get it. Teachers must teach the use of libraries, dictionaries, encyclopedias, topic-specific resource books, resource people, telephone directories, maps, etc. They must teach techniques for collecting original data in real situations with living and non-living things. They must teach techniques for the retrieval, sequencing, and storage of information. In addition, they must teach the students how to use information to ask further questions--how to deepen their research.

As ''research coordinator,'' the teacher must facilitate the presentation or sharing of the students' work among the students themselves, the rest of the school, and the community. The teacher must also coordinate the evaluation of the work through audience feedback, self-evaluation, and the critical appraisal of the child's growth.

The Teacher As a Part of a Programming Team

Every child in a child-centred, activity-based early years environment has a programming team consisting of the teacher and the parent(s) or guardian(s). For some children, the programming team might also include the school principal (or delegate) and the resource teacher. A

few children's programming teams might further involve teaching assistants and support personnel from allied professionals. Regardless of who participates on the child's programming team, the teacher plays a crucial role in planning, implementing, assessing, and evaluating the child's instructional programming.

CHILDREN'S PROGRAMMING TEAM		
MAJORITY OF CHILDREN	Teacher Family	Develop and implement an informal, yet appropriate and individualized instructional programming plan of action
SOME CHILDREN	Teacher Family Principal (or Delegtate) Resource Teacher	Resource supports provided as determined by school or division
A FEW CHILDREN	Teacher Family Principal (or Delegate) Resource Teacher Assistant Allied Professionals	Develop and implement a formal Individualized Educational Plan (IEP)

The purpose and function of a children's programming team meeting may be to

- share existing information about the child obtained from the parent or guardian, previous or existing intervention services, or school records
- determine and implement learner-focused curriculum and behaviourial classroom-based data collection techniques rather than rely only on the traditional "psycho-educational assessment using standardized tests"
- brainstorm instructional programming intervention strategies that can be implemented in the early years environment as well as in the home and/or community
- select instructional programming intervention procedures; clarify the implementation procedures (who does what, when, where, how, etc.)
- plan follow-up meetings (who attends and why)
- evaluate the effectiveness of programming intervention strategies
- using learner-focused assessment and evaluation techniques
- determine the child's next best instructional programming step
- develop and implement an Individualized Educational Plan (IEP) where appropriate, and use the IEP as an evolving communication TOOL between the family and the school and/or the community

Children's programming teams collectively need expertise in communication and problem-solving skills, learner-focused curriculum and behaviourial classroom-based data collection techniques, classroom intervention programming strategies, learner-focused assessment, and evaluation techniques, as well as knowledge of divisional, community, and provincial intervention resources and services.

Children's programming teams and professional development in these areas may be orchestrated by principals or special education consultants and coordinators.

The Teacher's Role in Early Intervention

The main purpose of the early childhood intervention process is to improve the child's instructional program so that it is appropriate to the child's development and learning. Teachers and other members of programming teams all participate in the early childhood intervention process. In a child-centred, activity-based classroom, the early childhood intervention process may be represented in Figure 11, opposite page.

The intervention process involves the teacher's initial preparation of the child-centred active learning environment. In such an environment, individual differences and learning styles will become apparent. Close observation of each child's interactions and consideration of information about the child's background, developmental level, and previous process allows the teacher to make decisions about individual programs. On-going observations allow programs to meet changing needs. Every child's programming team includes parents and the early years teachers, and, for some children, may also include an administrator, a resource teacher, an assistant, and allied professional support personnel.

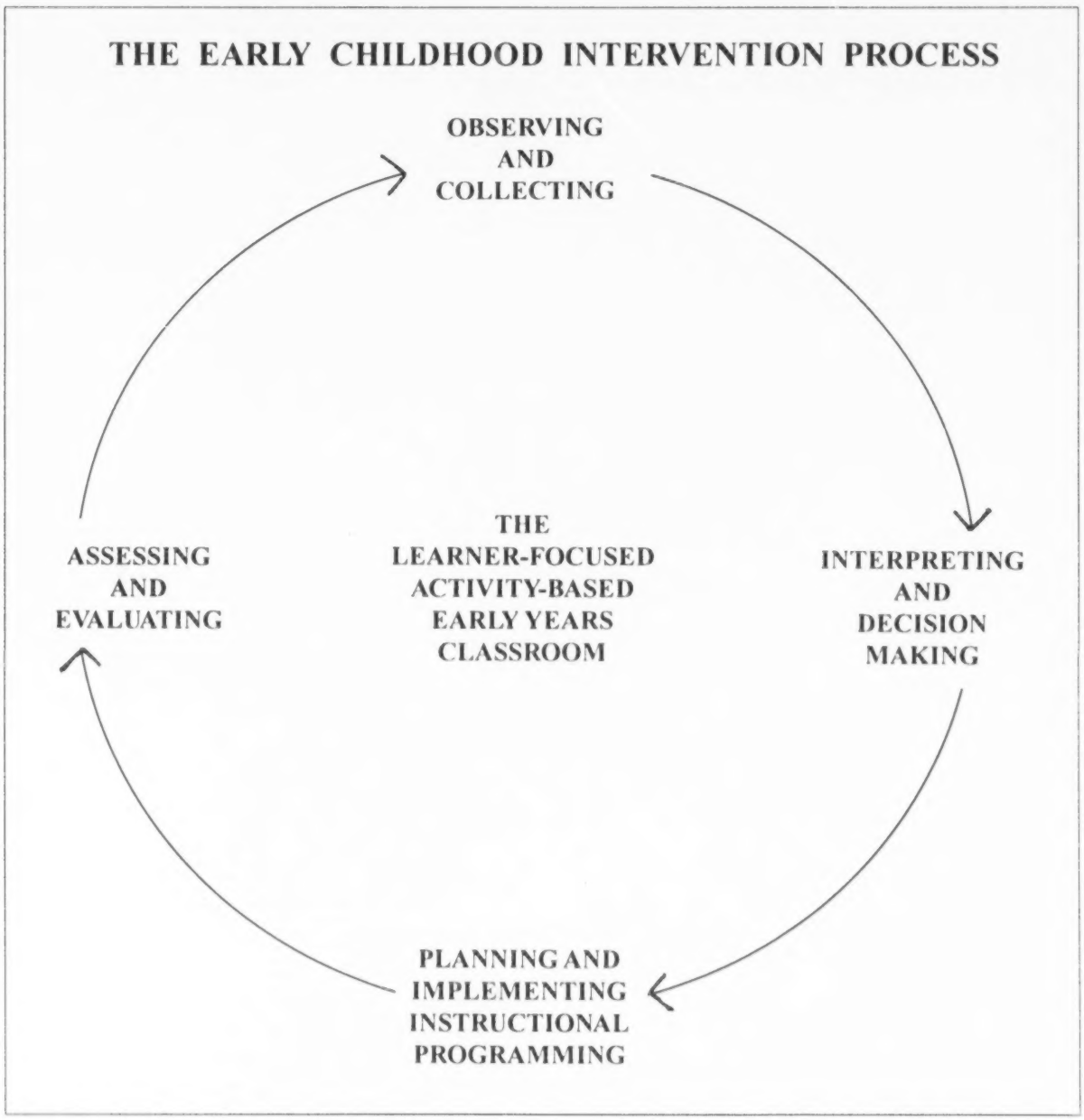
THE EARLY CHILDHOOD INTERVENTION PROCESS
OBSERVING AND COLLECTING
INTERPRETING AND DECISION MAKING
PLANNING AND IMPLEMENTING INSTRUCTIONAL PROGRAMMING
ASSESSING AND EVALUATING
THE LEARNER-FOCUSED ACTIVITY-BASED EARLY YEARS CLASSROOM

Figure 11

Adapted from *Shared Discovery: Teaching and Learning in the Primary Years*, Ontario, Ministry of Education, 1985.

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Chapter 15

Where to Find Help When Needed

Non-Classroom Teachers

Since most school principals and education consultants have been teachers at some point in their careers, they share an experience which ties them to the classroom teacher. Their objectives are like those of the teachers--the continued evolution of the educational system in order to better meet the current and future needs of students.

These ex-classroom teachers have often been viewed only as evaluators, a view which tends to limit their role as educational leaders and resource persons. These non-classroom teachers value sincere attempts to enhance student education and teacher development. They understand the difficulties in taking risks and appreciate the value of teachers who have committed themselves to growth and adaptation to changing conditions. Classroom teachers need to find these other teachers whom they can trust and open up to. The teacher's job is too big to be done alone.

Consultants

Education consultants at the divisional level and provincial level are knowledgeable, enthusiastic sources of ideas, literature, and advice. They are teachers who want to be consulted by other teachers and who will respond to teacher-based concerns and teacher-directed change.

In addition to having a major responsibility for the development of curriculum and resource books, consultants have the opportunity to interact with many classroom teachers and have many practical ideas to share. They are good sources of information on current articles, books, and other resources. Consultants can often help classroom teachers make connections with other teachers, thus facilitating the development of networks and encouraging an ongoing exchange of ideas. Consultants can work with teachers, staff, or divisions, providing leadership and assistance in assessing their practices and developing action plans to improve classroom practice.

Principals

As the professional leaders of the local schools, principals set directions for the schools and facilitate and support individual teachers in fulfilling personal goals and directions. Their role involves understanding the individuality of teachers and encouraging them to develop their own strengths and identify their own needs for professional development.

Principals can facilitate timetabling by being aware of the need to

- allot extended blocks of time for sustained involvement in active learning
- limit the number of teachers involved with a group of children to prevent fragmentation of programming
- make provisions for teachers and other members of the child's programming team to have joint meetings for the purposes of program planning

In their administration of the budget, principals can support early years programs by being aware of

- the need for making funds available for the purchase of materials for active learning
- the diminished need for complete class sets of textbooks and workbooks and the increased need for literature and reading materials for research and reference;
- the importance of building a library of professional resources for use by teachers developing child-centred, activity-based learning programs

Principals can support the growth and development of teachers by being aware of the need for ongoing professional development such as the following

- attendance at workshops that focus on active learning, cooperative learning, hands-on science, manipulative math, literature-based reading, student research, appropriate evaluation techniques, and so on
- inter-class and inter-school visits for teachers to see the classrooms of other teachers and to discuss programming issues with their colleagues

Child-centred, activity-based programming often requires changes to the physical environment of the classroom. Principals can support these changes by being aware of the reasons for departing from an environment which features rows of desks and moving toward including more varied working spaces, flexible use of furniture, sand and water tables, etc.

These are only some of the ways in which a principal who is knowledgeable about early years philosophy and programming can support early years education in the school. The principal can also direct the school toward a common current of change thepurpose of which is to strengthen each individual. The teachers, in turn, have an obligation to communicate their professional goals to the principal.

Classroom Teachers

Other classroom teachers often have experiences, subject-area expertise, and program models which can be a rich resource for teachers wishing to set up an activity-based, child-centred program. This sharing of information can be either informal or the subject of a planned exchange.

Support Systems

Building relationships with other educators is a major ongoing process in the evolution of the teacher and the classroom. In these relationships one finds the trusted audience for obtaining critical feedback, generating ideas, developing curriculum, generating materials, and celebrating growth. It is not enough to leave the development of these relationships only to chance; systems must be found to enable educators to develop these relationships. The influence of creative energy should spread to teachers who might not have made supportive links with other teachers.

Support systems can be initiated by teachers or principals, but they are most fruitful when they are modified, developed, and carried out within the context of the classrooms of the teachers involved. The examples of support systems presented below (Writers' Groups, Idea Sharing Groups,Grade Level Meetings and School Team Meetings, and Review Groups) are meant to be adapted to different situations and to the varying character of the participants.

Writers' Groups

As well as being writers themselves, teachers teach writing and talk about writing to students. Writers' groups are groups of educators that get together and share their own writing, exchange ideas about students' writing, and discover the purpose and power in writing.

The groups meet both in and out of school. They often rotate biweekly meetings amongst the homes of a few of the members. At each meeting preassigned members share their own writing with the group, followed by discussion and response. At different times of the year the focus of the group could change to meet the evolving needs of the

members. Educational issues might arise or a stronger personal focus or classroom focus could emerge as the group moves through the year.

The benefits of this kind of group are far-reaching. There are immediate benefits to the teacher in terms of being able to relate to students who are trying to write. As a writer, the teacher has common experiences to share with the students; the students, in turn, see that the teacher is encountering struggles similar to theirs. The experience of expressing oneself about relevant topics and in personally meaningful ways becomes heightened in a classroom where the teacher also is a writer.

The uncertainty and fragility of exploring change in education can be processed and clarified in writing groups. As a classroom changes, as the teacher encounters new experiences, and as further questions point to even more far-reaching implications, regular writing sessions will help to expose the essential problems and focus the writers' subsequent action. This is essential to making change fit the needs of the participants.

Idea Sharing

Idea sharing groups offer another support system for educators, one with a very simple format that can be implemented by a school staff or by any group of teachers ranging in size from 4 or 5 to 15 or 20.

At the beginning of the school year the group could brainstorm a list of topics, themes, and content areas to be looked at throughout the year. One theme, topic, or area could be chosen as the focus of the next meeting, and each member could be asked to bring one idea associated with the predetermined topic. Another topic would be decided upon at each subsequent meeting.

Another slightly different way to structure such meetings would be to have each member bring one concern and one success related to a chosen topic. Members would take turns presenting a concern and the group would brainstorm possible solutions to the concern. Following the group discussion, the member whose concern is being addressed would share his or her success for the other members to use or adapt as they see fit.

Grade Level Meetings and School Team Meetings

If there are several elementary schools in close proximity to each other, teachers of similar grade levels could organize support groups among themselves. These groups could be loosely structured for idea sharing or they could be the origin of workshops on specific topics conducted outside school hours. The meetings could take place in different school settings as a way of stimulating fresh thought about teaching Grades 3 and 4.

There are often enough early years teachers in one school to make an effective in-school team where idea generation and program planning are shared responsibilities and the educational challenges of the classroom can be dealt with cooperatively.

Review Groups

Review groups (Review of a Job, Review of a Classroom, or Review of a Child) are "descriptive documentary processes" developed by the staff of the Prospect School in Vermont, U.S.A. They are excellent ways to practice the teaching tools discussed in this document: anecdotal note-taking, writing about students, in-depth observation, evaluation of time, space, behaviour, and resource management, and curriculum development.

A review group is made up of any group of educators who want to develop their professional skills with each other in an environment of trust and openness. The teachers could be from one school, from schools in the same community, or from a variety of locations.

Review of a Child is a common kind of review (see Appendix A), the format of which requires one member of the group to be the presenter. Prior to the review, the presenter selects a child of whom she or he wants to gain a deeper understanding and observes the child and his or her interactions with the child, focusing on areas of interest or concern. The presenter then describes the child to the group in a non-judgemental, holistic way--in as full and rich a way as possible. The group asks questions, offers comments, and makes suggestions. Thus,

> *the primary purpose of the Staff Review of a Child is to bring varied perspectives to bear in order to describe a child's experience within the school setting. On the basis of this description and discussion of its implications, the staff comes to recommendations for supporting and deepening the child's school experiences and, according to need, offers ways to support the teacher bearing major responsibility for the child in implementing the recommendations.* (The Prospect Archive and Center for Education and Research, 1986, p. 26.)

Presenting a description of a student in a review group tells as much about the teacher as about the student. During the review process, the perceptions of the presenter and of the group are being developed and the biases and obstacles to seeing children in their uniqueness are uncovered. This professional contemplation is the fruit of working with a trusted group of colleagues in an environment where risk taking is valued.

Practical ideas for enhancing the child's school experience are generated in this review process although they are not the only goal of the review. The group response to the presenter's focus influences curriculum development, pedagogy, and considerations for the classroom environment.

"Review of a Child" takes commitment and time. The practice of getting together and coming to know a new child at each meeting is refreshing. In the review process, each participant is required to become a learner--a student of other students and teachers. (See Appendix A for a more complete description.)

Conclusions

Support systems such as those presented above are crucial to the ongoing development of teachers. The skills required of a teacher are diverse and cannot be acquired in isolation; collaboration with other educators is needed. It is only practical, however, that individual teachers take responsibility for placing themselves in a situation where these skills can be acquired.

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Chapter 16

Walking the Path: The Ups and Downs

Weathering the Storm

frog blinks
skin flaking
with mud
so dry
still
roadside weeds
hung in defeat
flag down a grasshopper
and ask to be eaten

thunder in the distance
black clouds playful children
roll into earshot
dog creeps away
like a spy
infiltrating cracks in the ground
thunder
cracking sky
no one knows who will be spared
to breathe the steam
of earth meeting sky
dust clouds
race before the wall
of water
mothers hide their children
wind darkness flash
doors shake
birds lose flight
crashing voices of forest grandfathers
fall into their graves
earth water fire air

shuffling the deck
drinking each other up
blackened riot marches into the east
sun knocks on the door
taking a look around
garden catches its breath
and treads water
till things find their own level
roadside weeds
bloat themselves
with stormfood
dog squints into a fresh day
and directs traffic
for insects
who have much food for thought
children laugh
and hide from their mothers
earth is earth
sky is sky
glory be to the storm

Robyn Traill

Storms involve vivid exchanges of energy--positive and negative charges, moisture, heat. They are the natural way for systems to stabilize. There is an innate disruptive quality in them but also an equally natural sense of relief. Storms are signs of change and result in renewed activity.

This metaphor can be broadly applied to education and teaching. The storms commonly experienced by teachers come from many factors

- new uses of time in the classroom
- changing ideas about what children can be responsible for
- ongoing reading in current research

- regular responses from students, parents, and teachers about classroom changes
- changing needs in society
- new materials, classroom structures, movement patterns, and student interactions
- the teacher's own beliefs about teaching, etc.

The job of teaching twenty-five or so children is a highly complex task that can only be appreciated by those who have tried it. Each student is an individual, unique in so many different ways, and therefore each combination of these individuals will also be unique in different ways. Furthermore, teaching requires the teacher to be a scientist and an artist at the same time. These demands have an impact on the personality and life skills of the teacher, and require discipline and openness at the same time.

The following suggestions may help teachers weather the storm accompanying the shifting ground of education and the pressure put upon teachers

1. Move slowly. Change one step at a time. Become comfortable with each step before proceeding further.

2. Find other teachers who are on a similar path and dialogue with them and organize teacher-based support systems.

3. Do not be discouraged with difficulties. It is common for teachers to try innovative ideas and structures and then revert back to familiar territory. Remember that new experience affect the classroom environment and that at times change occurs slowly and without obvious signs.

4. Read good professional literature. Much has been said and written about various aspects of the vision of education presented in this sourcebook.

This document, *A Time for Learning, A Time for Joy: The Early Years, Part II, A Sourcebook for Grades 3 and 4*, has been written on the premise that teachers understand their own intrinsic intelligence. Teachers understand the energy of coming to "know" something. Teachers everywhere have seen children erupt in enthusiasm, stare in undisguised wonder, crave for new understanding, and speak and write with conviction. These experiences will carry children into an age where things are uncertain, but where everything can be discovered. The path is collective in that everyone is responsible for serving others, but it is individual in that everyone must make his or her own discoveries along the way.

> There was a child went forth every day,
> and the first object he look'd upon
> that object he became,
> and that object became a part of him
> for the day
> or a certain part of the day,
> or for many years
> or stretching cycles of years. . . .
>
> **- Walt Whitman**

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Appendix A

Review of a Child

The following format for carrying out the "Review of a Child" was developed by the Winnipeg Review Group based upon a model used by the Prospect School of Vermont.

The "Review of a Child" process has both an immediate and a long-range purpose. The immediate purpose is to focus on a particular child with the goal of making recommendations which will help the teacher deal with an identified area of concern. The long-range purpose is to provide an ongoing professional development experience for the participants. Through the regular study of individual children, participants come to know all children more deeply. Over time, participants come to value the group process as a major source of inspiration and renewal in their professional lives.

Participants and Roles

The Review Group works best when there are eight to ten regular members. Classroom teachers from all levels, support staff, student teachers, consultants, principals, and teacher educators have all been part of the Winnipeg Review Group. Participants are expected to attend regularly. Carrying out a successful review is a demanding task, and the skills required of each individual and of the group build and develop with practice.

The following roles rotate among regular participants.

1. The ***chairperson*** is responsible for starting the meeting on time; for keeping the session moving along according to the outline below; and for maintaining the formality of the procedure as well as a healthy tone which is respectful of the child and the family.

2. The ***presenting teacher*** prepares a brief summary of pertinent background information on the child being reviewed, including school history, health, and any family information which is open to the school; focuses the review by stating a central issue or

problem for which support and recommendations are sought; and prepares and presents a comprehensive description of the child, under the categories listed below. It is also the responsibility of the presenting teacher to follow through on accepted recommendations and to report back on the results at a follow-up session about six weeks after the initial review.

3. The ***recorder*** keeps a written record of the recommendations, makes copies, and distributes these to all members of the review group.

Other participants are responsible for offering observations, summary comments, recommendations, and reflections on the process.

Procedure

The "Review of a Child" is a formal procedure which requires about 90 minutes. The five steps are:

1. ***Presentation of the Child***

   a) The presenting teacher gives the first name and age of the child and presents relevant background information

b) The presenting teacher identifies the focus or the problem for which recommendations are needed and presents the child in detail, under the categories described below

2. ***Extension of Presentation and Discussion***

a) The chair invites questions or requests for clarification directed at the presenting teacher
b) The chair asks for additional observations of the child from any other participants
c) The chair attempts to summarize the main patterns, themes, traits, or styles which emerged in the description of the child

3. ***Recommendations***

a) The chair restates the focus and asks the participants to make recommendations to the presenting teacher
b) The presenting teacher responds to the recommendations, either after each one is made or at the conclusion

4. ***Closing Circle***

a) The chair invites each participant to give a personal response to the review
b) Suggestions for modifying the process in future may be made at this point and are noted by the recorder

5. ***Conclusion***

a) Set a date for the next review
b) Determine roles
c) Specify any follow-up on a previous review which should take place at the next session

Description of the Child

On the basis of current records and observations, the presenting teacher describes the child under the following six categories and, if appropriate, brings samples of the child's work to the review.

1. The child's stance in the world. Try to portray the child through the eyes of a silent movie camera. Describe posture; gestures; movements; facial expressions; energy patterns; rhythms.

2. The child's emotional tone and disposition. Describe the range and intensity of the child's emotions; how emotions are expressed or controlled; evenness of moods.

3. The child's relationships to other children and to adults. Describe attachments and avoidances; modes and styles of relating; variations and consistency in relationships; etc.

4. The child's activities and interests. Describe what the child likes and does not like to do, in and out of the classroom; variety and consistency in activities and interests; openness to new experiences; patterns of involvement.

5. The child's involvement in formal learning. Describe interests; attitudes; learning style; preferred modes.

6. The child's greatest strengths and greatest vulnerabilities. Try to describe at least three of each.

Conclusion

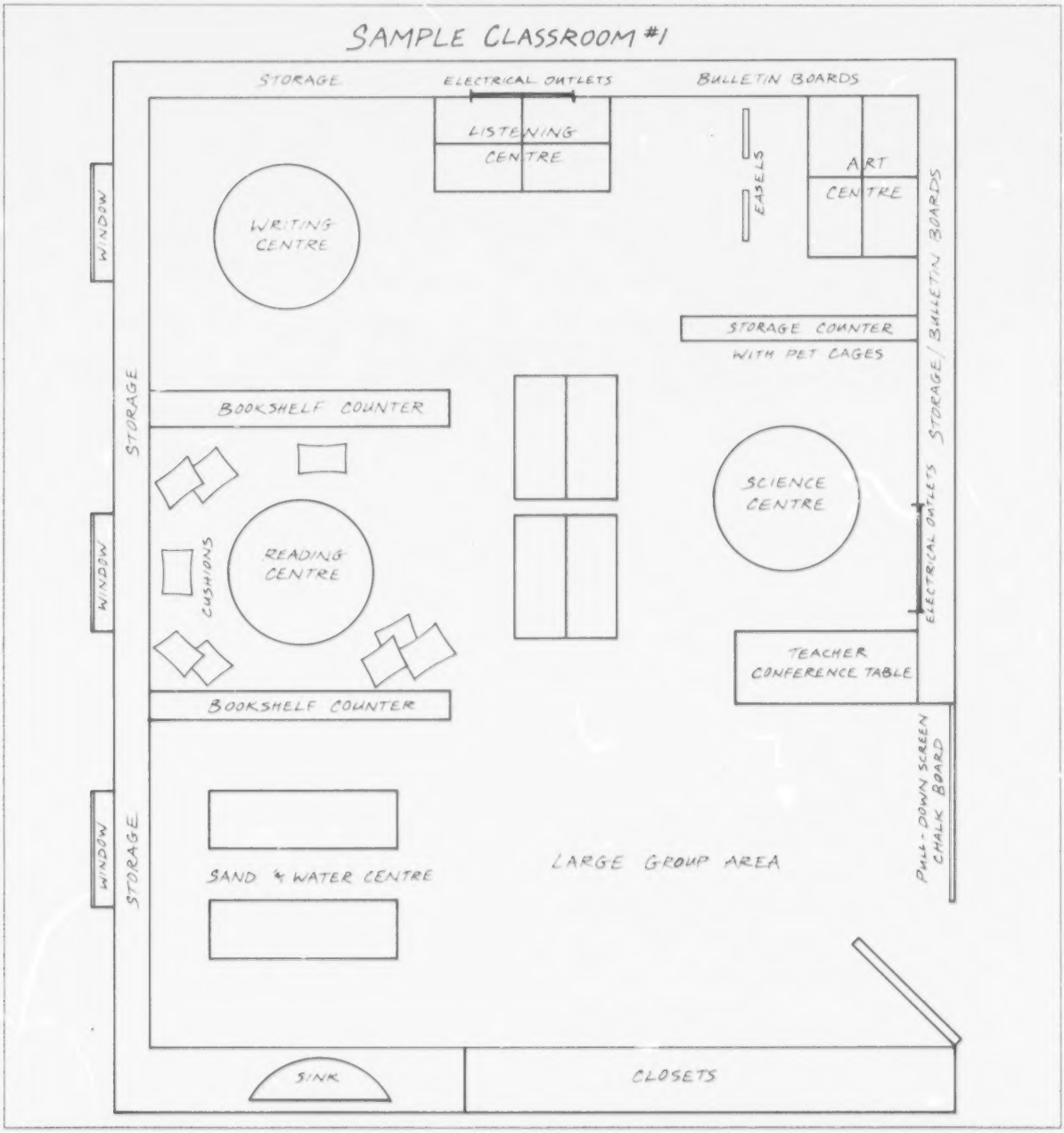
There are a few important points about the "Review of a Child" process which should be emphasized. First, the aim in presenting the child is to *portray* the child so fully as to evoke his or her presence. The aim is *not* to analyze, categorize, explain, or judge; hence, descriptions and comments should avoid jargon, labels, clinical terminology, and conclusions. Descriptions of the child should be in language which is as specific, concrete, and rich as possible.

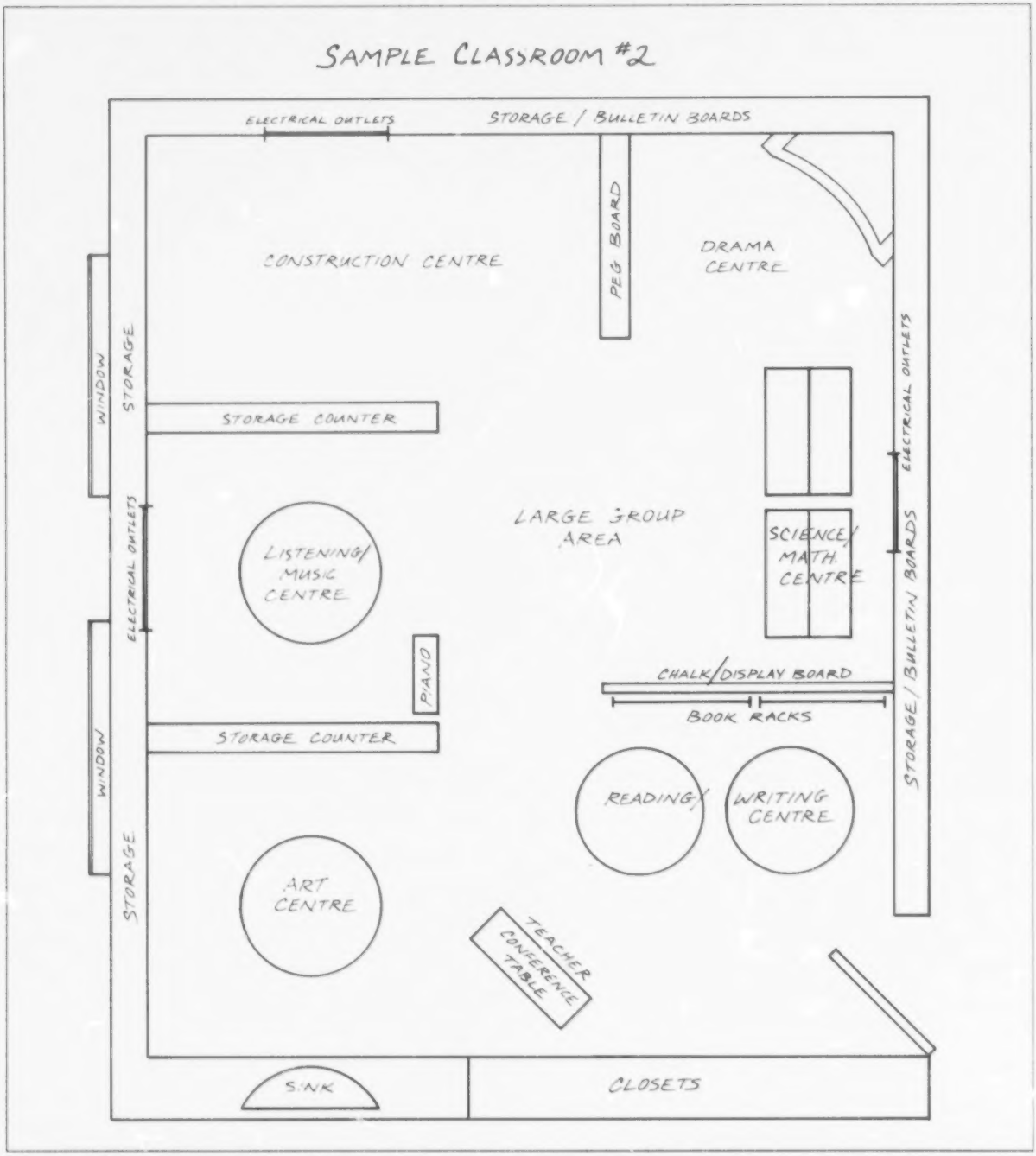
Second, the "Review of the Child" is a positive, supportive process. Recommendations ideally will support the child's strengths and interests, not try to modify or control the child.

Finally, the focus of the review is on what can be done in the classroom and in the school. Background information on the home situation may be included in order to present a complete picture of the child, but the privacy of the family should be respected at all times during the review process.

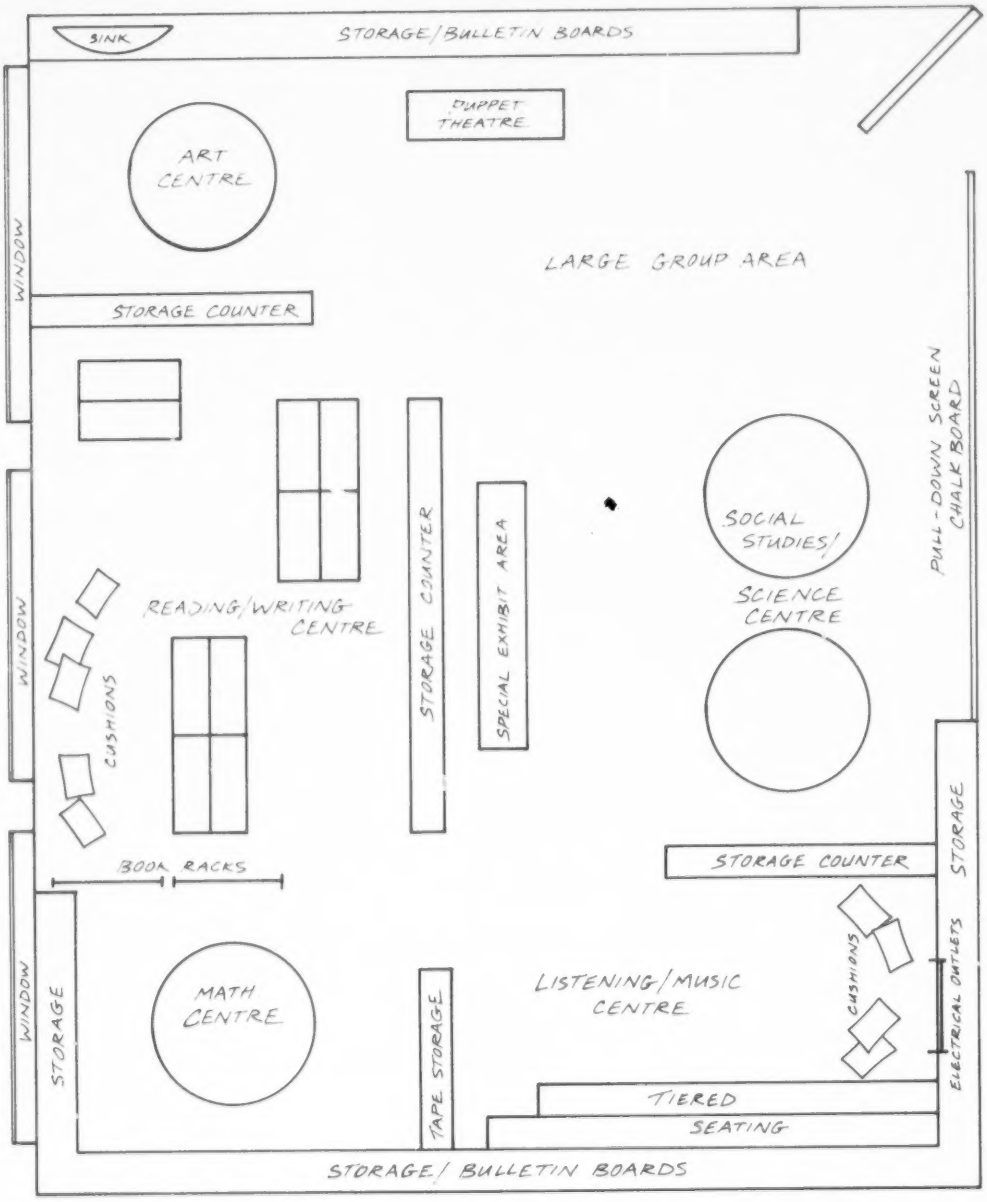
Those educators wishing to obtain further information about the review processes may contact the **Grove Street Teachers' Center** (#1-116 Grove Street, Winnipeg, Manitoba R2W 3K8). The Grove Street Teachers' Center is a teacher-operated workplace where teachers can engage in ongoing professional development through making classroom materials, creating and adapting curriculum, exploring educational ideas and issues, reflecting on their teaching practice, and sharing and learning from each other.

Appendix B — Sample Activity-Based Classrooms




SAMPLE CLASSROOM #2
ELECTRICAL OUTLETS
STORAGE / BULLETIN BOARDS
PEG BOARD
CONSTRUCTION CENTRE
DRAMA CENTRE
WINDOW
STORAGE
STORAGE COUNTER
ELECTRICAL OUTLETS
LARGE GROUP AREA
SCIENCE/ MATH. CENTRE
ELECTRICAL OUTLETS
STORAGE / BULLETIN BOARDS
LISTENING/ MUSIC CENTRE
PIANO
CHALK/DISPLAY BOARD
BOOK RACKS
WINDOW
STORAGE COUNTER
READING
WRITING CENTRE
STORAGE
ART CENTRE
TEACHER CONFERENCE TABLE
SINK
CLOSETS

SAMPLE CLASSROOM #3



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